NEW EQUIPMENT DIGEST

A Penton Publication

September, 1961

Volume 26 — Number 9

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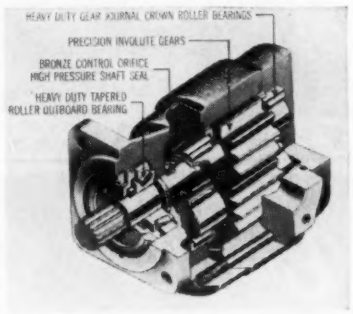
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 16 and 88

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

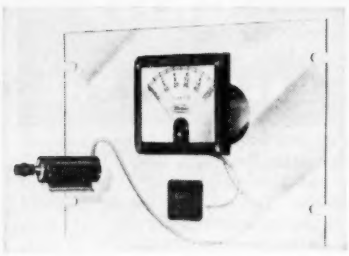
HYDRAULIC POWER PUMP
gear type develops up to 2500 psi



Three series of the redesigned heavy duty Model X gear pump have outputs ranging from 7 to 97 gpm at 1800 rpm at pressures to 2500 psi. Improvements include new tooth contour, crown roller bearing, outboard bearing self-lubricated by oil metered from the pump, and a variety of mountings, portings, and drive shafts. Pumps are used to generate fluid power for all types of hydraulic machines and equipment. • **Commercial Shearing & Stamping Co.**, 1775 Logan Ave., Youngstown 1, Ohio.

▲ For more details circle **NED-1 J1** on enclosed inquiry slip ▲

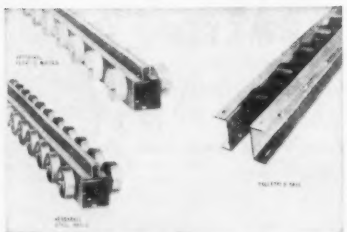
THREE-RANGE TACHOMETER
accurate to 1 per cent full scale



Fixed mounting of Type 47M tachometer requires panel space of only 4¾ to 4¼ in., plus any convenient location for range selector. It is available in six 3-range scales beginning with 0 to 100, 200, and 500, and ending with 0 to 1500, 3000, and 7500 rpm, or fpm, as the case requires. Full-range accuracy is within 1 per cent. Pick-up head can be located up to 1000 ft from indicator. Also available is the single-range Type 47S with 14 scales from 0-100 to 0-7500 rpm or fpm. Prices for the two types are $99.50 and $89.50, respectively. • **Metron Instrument Co.**, 5300 S. Delaware, Littleton, Colo.

▲ For more details circle **NED-2 J1** on enclosed inquiry slip ▲

WHEELED RAILS
with plastic or steel wheels for making storage racks, conveyors



Live storage racks, pallet conveyors, work table feeds, and similar assemblies can be made up with Versarail and Palletflo wheeled rails available with 1½ or 2-in. steel wheels or 2-in. plastic wheels. Tubular designed Versarails have wheels mounted on one or both sides. A built-in row divider extends above the tops of the wheel, eliminating the need for separate guides or uprights. Rails are prepunched at 1-in. centers to allow any wheel spacing from 2 in. upward.

Heavy-duty Palletflow units can handle heavy pallets, either on the bottom deck or across the bottom deck. Only 20-in. deck surface is required for a 2000-lb pallet load on a rail with 3-in. wheel spacing. Wheels are braked to hold pallets to a slow rolling speed at a pitch of only ⅛ to 5/16 in. per foot. Wheel spacing from 3 in. up is possible. • **M-H Standard Corp.**, 515 Communipaw Ave., Jersey City 4, N. J.

▲ For more details circle **NED-3 J1** on enclosed inquiry slip ▲

EPOXY COATING
keeps granules from sticking to bin

An extra hard, glass-like coating is imparted to practically any surface by Epoxy Resiweld, an epoxy formulation designed to prevent granular materials from sticking to bins or hoppers. Coating resists wear and reduces sticking by nearly 100 per cent. It can be brush, roll, or spray applied and covers 400 to 500 sq ft per gallon. • **Frederic B. Stevens, Inc.**, 1800 18th St., Detroit 16, Mich.

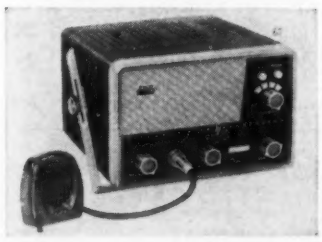
▲ For more details circle **NED-4 J1** on enclosed inquiry slip ▲

SELF-ALIGNING BEARING
made of self-lubricating bronze

Consisting of a one-piece, integrally cast, spherical, self-lubricating bearing nested in an aluminum housing, Lube-Align bearing is self-aligning. Long life is afforded without need for lubrication. Miniature size units can be used to support small shafts and carry heavy loads. • **Bronze Bearings, Inc.**, 3553 Addison St., Chicago 18, Ill.

▲ For more details circle **NED-5 J1** on enclosed inquiry slip ▲

TWO-WAY RADIO TELEPHONE
operates on any or four bands



Featuring multichannel operation, a choice of crystal or continuous receiving, a press-to-talk microphone, a superheterodyne receiver with an rf stage and a 1750-kc if strip, and an adjustable squelch control and automatic noise limiter, series of Deluxe Citizen's band transceivers includes low cost kit and fully wired units. All models operate on 117-v ac, and some also have vibrator power supplies for 6 and 12-v dc battery operation. Prices range from $69.95 to $79.95 in kit form and from $99.95 to $109.95 fully wired. Set does not require a licensed operator. • **EICO Electronic Instrument Co.**, 33-00 Northern Blvd., Long Island City 1, N. Y.

▲ For more details circle **NED-6 J1** on enclosed inquiry slip ▲

SAFETY GLASSES
with wire screen side shields

Wire screen side shields on Polyfit safety glasses reduce side light reflection and assure ample ventilation for jobs in high heat and humidity. The fine or coarse mesh black oxidized screens are plastic bound. Glasses have a sturdy nose bridge that fits 90 per cent of workers' faces, Rhodium-plated temples, and welded hinges with Sur-Lok pins. Clear or antiglare glass, or plastic F-7 Shape 6.00C Super Safety Lenses are provided in sizes of 46 x 39 mm and 48 x 41 mm. • **Chicago Eye Shield Co.**, 2727 W. Roscoe St., Chicago 18, Ill.

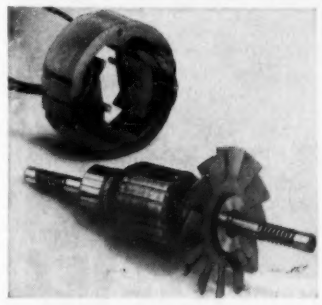
▲ For more details circle **NED-7 J1** on enclosed inquiry slip ▲

PORTABLE COPYING MACHINE
operates on 115 v ac

Enclosed in an attractive luggage brown case, this portable 12-lb Attache Contoura photocopying machine will reproduce anything written, printed, drawn, typed, or photographed. It plugs into any handy electric outlet, takes up to 8½ x 14-in. sheets, and is usable in daylight. Optional book copier permits reproducing oversize material as well as from hard-bound books. It can be carried to the job and will withstand the rigors of travel. Price is $149.50 for copier alone, and $199.50 with the book copier. • **Anken Chemical & Film Corp.**, 3 Hicks Ave., Newton, N. J.

▲ For more details circle **NED-8 J1** on enclosed inquiry slip ▲

BUILT-IN MOTOR PARTS
include one-coil-per-slot armature



A one-coil-per-slot armature that gives long brush and commutator life is incorporated in line of series motor parts available for built-in applications. Other improvements in the line include welded commutator leads, integral insulation with increased dielectric strength and impact resistance, an epoxy field dip, and Permafil varnish armature coating. Also offered is an assortment of brush assemblies and brushholders to meet varying commutation requirements and a line of fans. Type BA motor parts are rated 65 to 560 w, 12,000 to 15,000 rpm. • **General Electric Co.**, 1 River Rd., Schenectady 5, N. Y.

▲ For more details circle **NED-9 J1** on enclosed inquiry slip ▲

OVERHEAD TRAMRAIL TRACK
handles heavy, swinging loads

Adapted to heavy duty overhead materials handling service, Tarca Track withstands heavy, swinging, jerky loads and provides a smooth road for materials movement. It is a compound section of a steel flange and web, plus a rolled high carbon alloy steel rail. The hard, flat, raised tread or running surface becomes polished in service for easy operation of cranes, carriers, and trolleys. Standard sizes range from 8 to 20 in. deep, and special sizes can be engineered to fit application. It is particularly suited for use where distances between track supports are great. Standard deflection will not exceed 1/450th of the span. Straight or curved tracks are made for loads up to 20 tons and in 60-ft lengths. • **Cleveland Crane & Engineering Co.**, Cleveland Tramrail Div., 1143 E. 283rd St., Wickliffe, Ohio.

▲ For more details circle **NED-10 J1** on enclosed inquiry slip ▲

7 KEEPS TO BRUSH MAINTENANCE

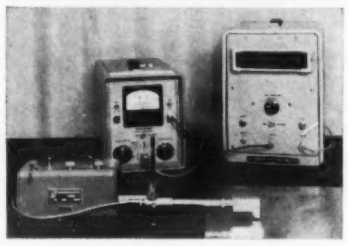
1. KEEP brush and commutator clean
2. KEEP brush pressure adjusted
3. KEEP mica undercut
4. KEEP good commutator film
5. KEEP brushes on neutral
6. KEEP good general maintenance
7. KEEP Superior brushes in stock

For amplification of the above and more information on carbon brushes, write for our study . . .

SUPERIOR CARBON PRODUCTS, INC.
TRADE SCP MARK
9115 George Avenue • Cleveland 5, Ohio

For more details circle NED-11 J1 on enclosed inquiry slip

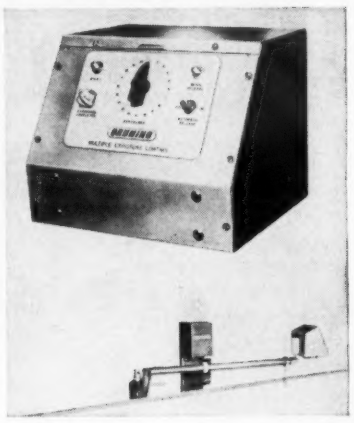
SURFACE ROUGHNESS CHECKER
device counts above-level peaks



The average roughness-height and the number of surface irregularity peaks above a preset level are measured and counted accurately by the Peak Counter when used with a Profilometer. This provides the means to control quality or uniformity of surface texture on machined, ground, plated, or other surfaces. • **Micrometrical Mfg. Co.,** 3621 S. State Rd., Ann Arbor, Mich.

For more details circle NED-14 J1 on enclosed inquiry slip

AUTOMATIC EXPOSURE CONTROL
speeds microfilm production



Automatic exposure control and automatic light meter return are operator conveniences now built into the Dea-Graph planetary microfilm camera to speed production and assure proper results. The exposure control can be set to repeat exposures from 1 to 20 images with a single knob. A warning buzzer and light signal when the last exposure has been made, and the light meter swings automatically into the center board position to determine the light values for the next original. The light meter can also be actuated manually. Both units mount conveniently on Bruning copy boards for use with Dea-Graph cameras, and are plugged into 115-v ac receptacles. • **Charles Bruning Co.,** 1800 Central Rd., Mt. Prospect, Ill.

For more details circle NED-15 J1 on enclosed inquiry slip

3/4-IN. BORE CYLINDER
single and double-acting types

Front nose, pivot, or double-end mounts are available for this 3/4-in. throw-away type cylinder with a mirror-finish body of Type 304 stainless steel. Both single and double-acting types have homogeneous synthetic U-cup seals. They are built for long wear in many types of service. Strokes up to 6 in. single-acting and through 24 in. double-acting are available. • **Bimba Mfg. Co.,** 101 Main St., Monee, Ill.

For more details circle NED-16 J1 on enclosed inquiry slip

For more details circle NED-18 J1 on enclosed inquiry slip

When you need a relube type bearing unit, you can get more compact design and lighter weight by specifying Browning. Reason: these new pillow blocks, flange blocks and take-up units have housings of practically indestructible *malleable*. They feature self-aligning ball bearings secured to the shaft by two set screws in the wide inner ring. All have elongated bolt holes for maximum adjustment. In 29 shaft sizes, 1/2 to 2 7/16". Ask Browning distributor for new Catalog BU-103, or write **Browning Manufacturing Company, Maysville, Kentucky.**

Browning . . . . OUR 75th YEAR

For more details circle NED-19 J1 on enclosed inquiry slip

■ FIT Teflon over rollers and machined parts
■ JOIN chemical tubes and fittings
■ PROTECT electrical components
■ ENCASE irregular shapes

USE PF
EXPANDED TUBING OF TEFLON*—TFE

PF Expanded Teflon tubing shrinks to specified dimensions when heat is applied and it will clamp tightly any inserted object. It gives a Teflon surface to metal objects and protection against chemicals so that you can offer a better product at less cost. This tubing retains all the unique chemical, electrical and mechanical properties of Teflon. It is available in all popular sizes in thin and standard walls in 11 colors and it can be made cementable. Printing and cutting to length are standard services. Challenge this PF tubing. You will find that it will more than meet your expectations. Write, wire or call for further details today.

PENNSYLVANIA FLUOROCARBON CO., INC.
1115 N. 38th Street, Philadelphia 4, Pa.
Phone: EVergreen 6-0603 TWX: PH252
*Du Pont Reg. T. M.

For more details circle NED-12 J1 on enclosed inquiry slip

GET ALL THE FACTS ON...
NELSON® STUD WELDING

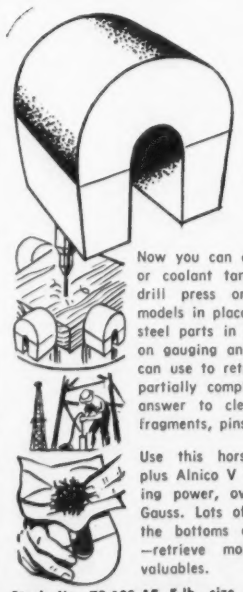
- REDUCE COSTS, INCREASE PRODUCTION
- END-WELD STUDS TO STEEL OR ALUMINUM — FAST
- ELIMINATE DRILLING, TAPPING, HAND WELDING
- IMPROVE PRODUCT DESIGN, QUALITY
- HANDLES STEEL STUDS UP TO 1-INCH DIAMETER

Send for Nelson Stud Welding "Design Manual"

NELSON STUD WELDING
DIVISION OF GREGORY INDUSTRIES, INC.
DEPT. 102-22 LORAIN, OHIO
GREGORY INDUSTRIES

For more details circle NED-13 J1 on enclosed inquiry slip

GIANT WAR SURPLUS
INDUSTRIAL MAGNET MIDGET PRICE!



ALNICO V—lifts over 125 lbs.
101 Uses:
over $40.00 Value

$9.95 POSTPAID

Now you can easily recover tools from dip or coolant tanks, hold work in place for drill press or grinding operations, hold models in place on layouts, and use to hold steel parts in place for welding, soldering, on gauging and aligning racks. Oil drillers can use to retrieve broken drill heads from partially completed wells. Also the perfect answer to cleaning shop floors of metal fragments, pins, etc. without taking up dirt.

Use this horseshoe-shape, 5-lb. war surplus Alnico V type Magnet—tremendous lifting power, over 125 lbs. Rated at 2,000 Gauss. Lots of fun, too—use for "fishing" the bottoms of lakes, rivers, ocean, etc. —retrieve motors, fishing tackle, metal valuables.

Stock No. 70,183-AE 5-lb. size ..... $9.95 Postpaid
Stock No. 70,416-AE 3 1/2 lb. size ..... $7.95 Postpaid
OTHER SIZES AVAILABLE ON REQUEST
Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee

FREE! GIANT 144-Page CATALOG "AE"
OVER 1,000 SCIENCE-MATH-OPTICAL ITEMS for industry . . . Many on-the-job helps . . . quality control aids! 144 pages—hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists, math learning aids. Write for FREE Catalog AE.

EDMUND SCIENTIFIC CO., Barrington, N. J.

For more details circle NED-17 J1 on enclosed inquiry slip

INTRODUCING THE NEW
Flowtronic
55 SERIES
AIR VELOCITY METER

For Accurate Measurement of Velocity and Temperature

Flowtronic 55 series Air Velocity Meter provides accurate direct reading of air velocity and air and surface temperature. Three air velocity ranges are provided: 0-1000 fpm, 1000-2000 fpm and 2000-4000 fpm. Temperature measurement range is 20°F to 220°F. An eight transistor electronic circuit provides both rapid and damped meter response. An electrical output which, is suitable for use with a chart recorder, is a standard feature and can be used for the continuous monitoring of air velocity. Model 55A1 is completely portable and is powered by sealed, rechargeable nickel cadmium batteries. Model 55B1 has an electronic power supply which operates on a 115v a.c. line. **Only $475.**

Write for Bulletin 64

FLOW CORPORATION
11 Carleton Street • Cambridge 42, Mass. • TR 6-9843

For more details circle NED-20 J1 on enclosed inquiry slip

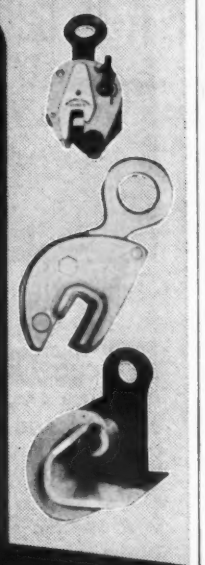
RENFROE LINE

STEEL LIFTING CLAMPS

- 14 different designs
- ½ Ton to 20 Ton Capacity
- 5 to 1 Safety factor
- All clamps safety tested
- 3 to 1 before shipment

Special design clamps available on request

Write for Renfroe catalogue



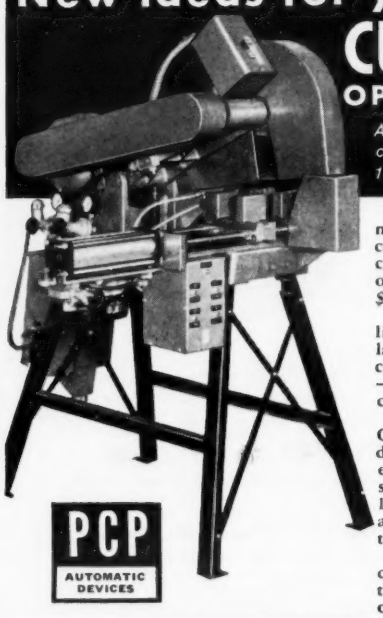
J. C. RENFROE & SONS, INC.
1926 SPEARING ST. • JACKSONVILLE, FLORIDA

For more details circle NED-21 J1 on enclosed inquiry slip

Power Control Products presents—

New ideas for you on CUT-OFF OPERATIONS

Automatic cycle cutting up to 1500 pieces per hour!



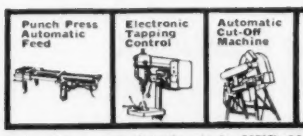
This revolutionary new idea makes rotary cutting, with .005" precision, a practical method—*and costs less than $2,000 complete!*

Now you can relieve expensive turret lathes and screw machines of cut-off work—and greatly increase cuts per hour.

PCP Automatic Cut-Off Machine handles most shapes and extrusions to 3"—standard bar lengths—1¼" solid stock. Standard feed strokes 3/16" to 8".

Write today for complete details on this new idea for cut-off production.

PCP AUTOMATIC DEVICES



Power Control Products, Inc.
VICKSBURG, MICHIGAN

For more details circle NED-22 J1 on enclosed inquiry slip

JF Series

SAFE, RELIABLE POSITIVE CONTROL

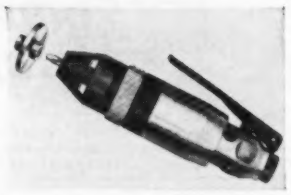
Convenience, positive control and protection for the operator are provided by the pistol-grip, push-button control station of the Coffing Quik-Lift electric hoist.

Ask your distributor about the twenty JF models with capacities ranging from ¼ to 2 tons or write for Bulletin ADH-65N.

COFFING HOISTS
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-23 J1 on enclosed inquiry slip

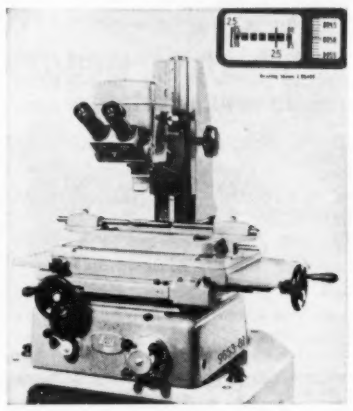
AIR DRIVEN ROUTER
develops speeds up to 25,000 rpm



Weighing only 1½ lb and 6½ in. long, this QRC-1D high speed router is controlled by simple hand pressure on the throttle. The pneumatic tool features an adjustable nose with a locking ring, outboard bearing, built-in speed control, and slotted port exhaust. Using ¼-in. router bits, it will cut metals, plastics, and other materials. Speed is adjustable up to 25,000 rpm. • **A. B. Quackenbush Co.,** 4216 San Fernando Rd., Glendale 4, Calif.

For more details circle NED-24 J1 on enclosed inquiry slip

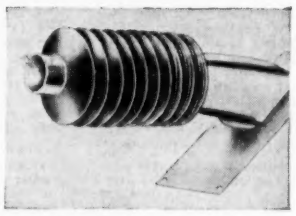
TOOLMAKER'S MICROSCOPE
binocular type has 3 x 8-in. range



Heavy optical measuring stage, binocular intermediate image tube, and a 3 x 8-in. range are combined in this Leitz toolmaker's microscope. Its master scales are read directly in 0.0001 in. through a single projection window (see insert), making the measuring operation in both directions continuous. Binocular microscope tube retains the 1:1 relay system of the standard Leitz tube, and includes a second relay ratio of 5:1. With the same optics, two series of magnifications available are 10, 20, and 30 X and 50, 100, and 150 X. Tube also features 1:1 thread and radii charts, internal protractor reading to 1 min, and a double image adapter for checking center distances of holes. • **Opto-Metric Tools, Inc.,** 139 Varick St., New York 13, N. Y.

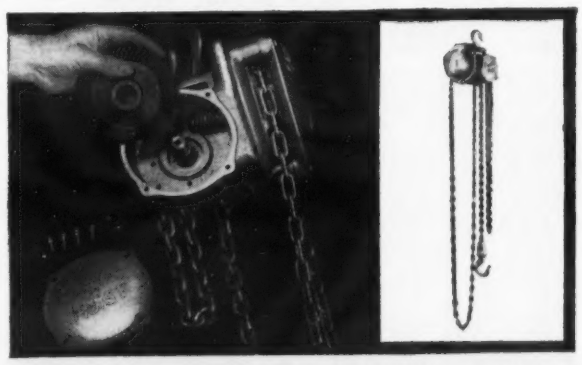
For more details circle NED-25 J1 on enclosed inquiry slip

ACCORDION PROTECTIVE SLEEVE
withstands temperature to 450° F



Made of silicone coated glass-fiber material, line of pliable accordion protective sleeves is suited for use in ambients from 450° F down to −80° F. It is unaffected by oil. In addition to protecting moving shafts and rods, it can be used as ducts for heat or hot gas transfer. A sample swatch of the material is available upon letterhead request. • **A&A Mfg. Co.,** 712 S. Twelfth St., Milwaukee 4, Wis.

For more details circle NED-26 J1 on enclosed inquiry slip



NEW COFFING PORTA-HOIST
Spiroid* Gear Transmission • Aluminum Alloy Housing

The new Coffing hand chain PORTA-HOIST with its exclusive Spiroid gear transmission has fewer moving parts to wear, assures you of long dependable service with low maintenance. It also provides strength and safety as the gearing has more teeth in contact.

The aluminum alloy housing and the compact power package gives you a hoist that is easily portable.

The Porta-Hoist line has 11 models with ½ to 12 tons capacity. Write for Bulletin ADH-76-N.

*Spiroid® is a registered trade name by Illinois Tool Works.

COFFING HOISTS
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-27 J1 on enclosed inquiry slip

TRIMflex®

CORROSION RESISTANT TEFLON* CORE FLEXIBLE, BRAIDED METAL HOSE

TRIMFLEX provides protection from chemicals, solvents and other corrosive fluids which attack ordinary hose. Stainless steel or bronze overbraiding provide maximum resistance to flexing, pressure and vibration. The Teflon core is chemically inert and stable . . . withstands temperatures from —65°F to 500°F. TRIMFLEX fittings are available either permanently swaged to the hose or detachable and reuseable.

Write for Bulletin No. 5

Timely TECHNICAL PRODUCTS, INC.
CEnter 9-2900 100 PINE STREET • VERONA, NEW JERSEY

A-2 ®Timely TM. *Du Pont TM.

For more details circle NED-28 J1 on enclosed inquiry slip

IF YOU CAN WRITE, YOU CAN . . . MARK IT PERMANENTLY

IDEAL

ELECTRIC MARKING TOOL
Stops Mix-Up, Loss, Theft of Parts and Tools

As easy to use as a pencil, the Ideal Electric Marking Tool quickly cuts names, part or stock numbers, sizes—any mark you want—on tools, components, equipment, materials. Stops confusion, loss and theft, pays for itself by eliminating costly tags and nameplates. Pocket-sized, it plugs into any 115v AC outlet for convenient toolroom, production line and warehouse use. Impact of 7200 cutting strokes per minute easily adjusted to suit variety of materials from steel to glass. Either diamond or hardened alloy points.

Sold through America's leading electrical distributors.
In Canada: Irving Smith, Ltd., Montreal

Attach to your signed letterhead for free Catalog Data on Electric Marker.
IDEAL INDUSTRIES, Inc.
1032-I Park Ave., Sycamore, Ill.

For more details circle NED-29 J1 on enclosed inquiry slip

New Sealed Aluminum Hoist Line means easy lifting in any weather!

Efficient hoist performance is assured by sealing out moisture, oils, chemicals and dirt from the brake mechanism. Five seals provide permanent protection under exposure conditions.

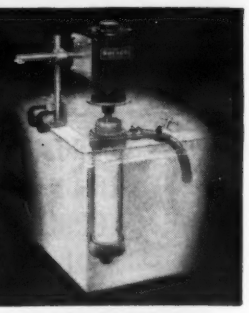
Lifting is easy with the Coffing Sealed Disk Brake Lever Hoist because the handle pull to lift rated load requires only 57 pounds with the ¾-ton model to 93 pounds with the 6-ton model. Load spotting is precise—to within minute fractions of an inch. Sealed brake will not slip. Six models—¾ to 6-tons.

The high strength aluminum alloy frame is light—makes for easy portability. Ask your distributor or write for Bulletin ADH-78N.

COFFING HOISTS
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-30 J1 on enclosed inquiry slip

50 to 2,700 g.p.h.
FILTER SYSTEMS
for universal applications
FILTERS TO 1 MICRON



Sethco filter pump units are recognized through the plating and chemical engineering fields as "the finest at lowest cost." Each unit is backed by the manufacturer's 1 YEAR GUARANTEE assuring you of superiority in materials and engineering. Send for your FREE catalog of Sethco filter pump units and see how Sethco "job-engineers" standard units to suit your application.

ECONOMY IN COST
ECONOMY IN OPERATION

Sethco's Submerged Filter Systems with work rate capacities of 50 to 200 g.p.h. and a maximum flow rate of 200 to 500 g.p.h. are designed for filtering every solution:
from lead to gold
from pH 0 to pH 14
from 70° F. to 200° F.

FREE!
Send for your Sethco M1 catalog of pumps and filter systems today. Complete, up-to-date, gives full specifications, applications, capacities, filter selection guide and prices.

Sethco MANUFACTURING CORP
2272 Babylon Tpke., Merrick, N.Y.
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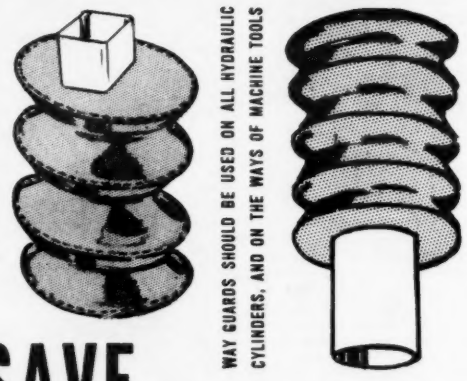
DEPTH FILTRATION FOR ALL ELECTROPLATING AND INDUSTRIAL APPLICATIONS • METAL FINISHING • PHOTO PROCESSING • PETROLEUM • SOLVENTS • LACQUERS • PHARMACEUTICALS • ULTRASONIC CLEANERS • RADIOACTIVE SOLUTIONS • WATER • ELECTROTYPING

For more details circle NED-31 J1 on enclosed inquiry slip

WAY GUARDS
CUSTOM MADE OF NEOPRENE AND OTHER OIL RESISTANT FINISHES . . .



SAVE COSTLY REPAIRS OF WAYS AND PISTON CYLINDERS . . . . . .
65 years experience — industrial fabrics

LAACKE & JOYS CO.
1433 N. Water St., Milwaukee 2, Wis.
BR 1-7878

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NEW! "4-IN-1" KIT
"Magnetic" SAFETY SHIELD

Will Last for Months!

NO HOLES TO DRILL
NO ATTACHMENTS

SIZE 10¼" x 5½"

NEEDED IN EVERY SHOP

New, inexpensive, transparent, portable, "magnetic" safety shield provides excellent protection against hot steel shavings, chips or other flying bits, to eyes, face, hands, arms and clothing of operators of drill presses, lathes, milling machines, grinders and kindred equipment.

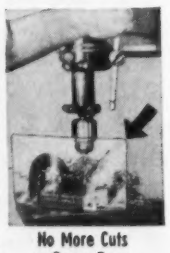
Two powerful permanent magnets permit attaching shield instantly to any metal part of machine. Simply place shield where shield is needed. Magnets hold at once.

Versatile — flexible — may be mounted vertically, horizontally or on curve or angle—an absolute "must" for every machine shop or wherever such hazards exist.

TRY THEM! NOW!

4-in-1 kit consists of one vinyl shield to which the two magnet assemblies are attached by means of aluminum book-binder screws and - 3 additional shields, punched for attachment to magnet assemblies when the original shield is ready for replacement. It's a 5 minute job—saves you money.

Extra replaceable vinyl shields are available, also, packed 6 in an envelope. The cost is pleasantly low.



No More Cuts or Burns From Flying Red Hot Chips or Shavings

BETTER SPECIALTIES — 605 W. WASHINGTON, CHICAGO 6, ILL.
Please send _____ "4-in-1" Kits @ $4.75 per kit.
Quantity
Name _____
Company _____
Address _____
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A PENTON PUBLICATION

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repairs INDUSTRIAL FLOORS *in minutes!*

SO EASY TO USE—Even Your Secretary Could Apply It!

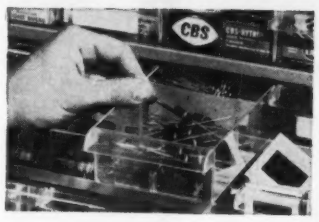
Why halt traffic for floor repairs in your busy plant? **Ranco MAGIC FLOOR** is ready-to-use, and needs no drying time. Just compress with ordinary lift truck—no laborious tamping or troweling. Traffic can roll **immediately** over the fresh floor patch.
MAGIC FLOOR is now available in a highly versatile, fine grading which can be applied thick or thin to excellent feather edges. Ideal for EXPANSION JOINTS broken to a V-shape. No skilled labor needed.

FREE SAMPLE: Send for a 2-gallon sample of MAGIC FLOOR, freight prepaid, no charge or obligation. Simply request on your company letterhead.

Write: RANCO INDUSTRIAL PRODUCTS CORP.
13311 M Union Avenue Cleveland 20, Ohio

For more details circle NED-34 J1 on enclosed inquiry slip

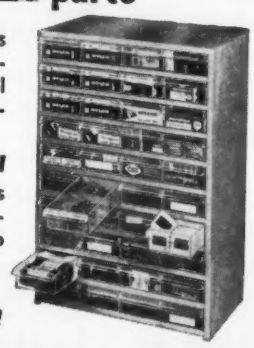
FREE! NEW CATALOG of A-M Cabinets that organize storage of all small parts



This new catalog shows how the scientific and efficient storage of small parts CUTS COSTS by saving space and time.

Model M40B illustrated
175 different stock models with from 6 to 128 drawers, or we can construct to your specific needs.

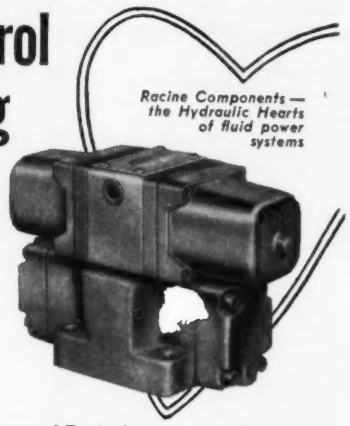
SEND TODAY FOR OUR NEW CATALOG!



A-M
AKRO-MILS CABINETS
Box 989-D • Akron 9, Ohio

For more details circle NED-35 J1 on enclosed inquiry slip

more control less piping with NEW 3000 PSI PIGGY-BACK VALVES



Racine Components — the Hydraulic Hearts of fluid power systems

Check these design advantages of Racine's new 4-way Directional Control Valves:

FULL PRESSURE at all ports, including drain.
INTERNAL DRAIN AVAILABILITY means less piping.
3000 PSI RATING on these streamlined, dustproof valves provide greater design applications.
SMALLER SOLENOIDS offer more compact design that can result in reduced installation costs for complete systems. Design conforms to J. I. C. standards.

3 SIZES: ⅛" ⅜" ¾"

RACINE
RACINE HYDRAULIC & MACHINERY, INC.
Racine, Wisconsin • Hydraulic Division

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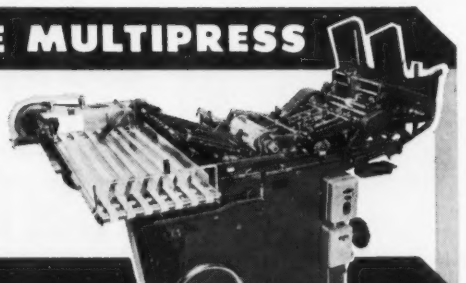
THE MULTIPRESS



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For more details circle NED-37 J1 on enclosed inquiry slip

Di-acro

DEEP THROAT
O.B.I. PUNCH PRESS

Deep 12 inch throat of new five-ton press allows working to the center of a 24-inch sheet. Easy to set up—ideal for women operators or inexperienced help. Can be set for single stroke cycling or continuous operation at 210 strokes per minute. Di-Acro punch presses are available in hand-operated, single station and turret models for short run production.

Ask your Di-Acro distributor for details or write us.

DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
789 Eighth Ave. • Lake City, Minn.

For more details circle NED-38 J1 on enclosed inquiry slip

Only Hytronic®
WITHOUT BEAM ADJUSTMENT

Cuts This Low... Cuts This High

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Rubber goods: seals, washers, gaskets
Apparel: suit components, skirts, neckties, belts
Packaging: blister, skin packaging
Leather: Luggage and leather goods and leather substitute items

United Hytronic® Cutting Machines can save money, simplify cutting. Dies differing in height as much as 2⅜" can be used alternately without beam adjustment, maximum die height of 5" or minimum of 5/16". *Result:* faster, more accurate cutting, increased production, lower overall costs. Send for details and "Fact" Sheets, today.

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140 FEDERAL ST., BOSTON, MASS.
To Cut Costs, Cut with United HYTRONIC Cutting Machines

For more details circle NED-39 J1 on enclosed inquiry slip

INTERCHANGEABLE PENS
for drafting, lettering, writing

Color-coded for quick identification of different point sizes (line widths), Rapidograph individually interchangeable drawing point sections are available in sets of one, three, and four, along with Rapidograph Technical fountain pens. They are usable for drafting, ruling, guide and free-hand lettering, tracing writing, and art work. Each of the seven sizes has an airtight, self-contained reusable ink cartridge which can be filled easily. • **Koh-I-Noor, Inc.,** Bloomsbury, N. J.

For more details circle NED-41 J1 on enclosed inquiry slip

VACUUM SYSTEM CONTROL
maintains preset pressure level

Control or protection of operation of industrial vacuum systems is function of the Protectovac, a 10-lb unit which functions like a radio alarm clock. It automatically maintains any preselected level of pressure from 40 to 1000 microns for vacuum furnaces, coaters, and pumping systems. It reads a signal from Type 521 thermocouple gage and opens and closes 5-amp contacts at the selected pressure point. Contacts operate external circuits to control power, run a diffusion pump, sound an alarm, turn on signal lights, and open or close valves. It functions under rising or falling pressure conditions and automatically resets when the system returns to operating pressure. Price is $375. • **NRC Equipment Corp.,** 160 Charlemont St., Newton 61, Mass.

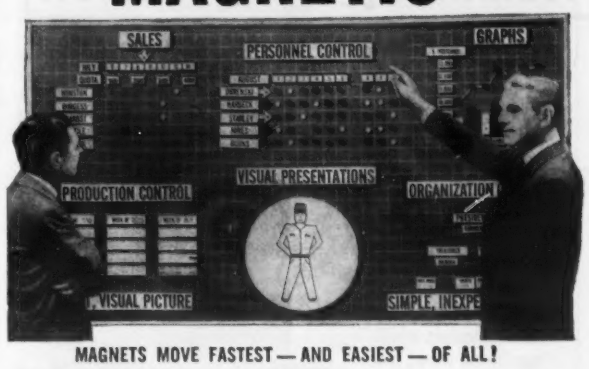
For more details circle NED-42 J1 on enclosed inquiry slip

MOBILE EQUIPMENT CASTERS
capacities range from 120 to 600 lb

Usable on trucks and dollies, work tables, production equipment, cabinets, and lab equipment, general utility casters include swivel and rigid types. These cadmium plated casters have metal, plastic, or solid rubber wheels in 2½ to 6-in. diameters, with a variety of tread widths and capacities from 120 to 600 lb. • **Nutting Truck & Caster Co.,** Faribault, Minn.

For more details circle NED-43 J1 on enclosed inquiry slip

VISUAL **MAGNETIC** CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
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COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE9 **FREE** ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS
Methods Research Corp.
105A Willow Ave., Staten Island 5, New York

For more details circle NED-45 J1 on enclosed inquiry slip

From Foxboro-
the simplest pneumatic temperature transmitter ever

Simplest to install
You can mount Foxboro's seven-pound Type 12A Pneumatic Temperature Transmitter anywhere — in any position. Installation is a one-man job.

Simplest to calibrate
You can calibrate the Type 12A in a matter of minutes. It takes just a screw driver for most span elevations. You get your choice of 15 spans — range limits from −400F to +1400F.

Simplest to maintain
No links, no secondary levers, no fulcrums — practically no maintenance. Fully compensated for ambient temperatures and pressures — ±0.5 percent calibrated accuracy guaranteed.

FOXBORO REG. U. S. PAT. OFF.

For complete details, write for Bulletin 13-17. The Foxboro Company, 669 Neponset Ave., Foxboro, Massachusetts.

For more details circle NED-46 J1 on enclosed inquiry slip

CUT AIR TOOL MAINTENANCE COSTS...

with Clean-Dry Compressed Air!

ADAMS AFTERCOOLERS provide virtually complete condensation of tool-damaging oil, moisture and dirt from pipeline gases — by efficient cooling to within 10°F. of the cooling water. ADAMS CYCLONE SEPARATORS then remove this condensate at a constant separation factor over all load ranges.

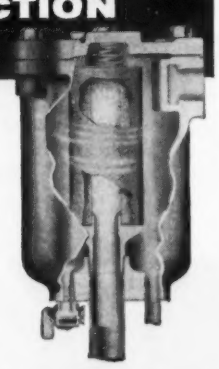
Adams offers this outstanding performance at substantial savings, made possible through specialization in Aftercoolers and Cyclone Separators — plus quality manufacturing methods developed over the years.

Investigate this low-cost method of protecting your pneumatic tools — write today for Bulletin 715! R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

For more details circle NED-40 J1 on enclosed inquiry slip

POSITIVE PRODUCTION PROTECTION

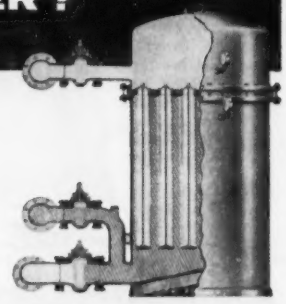


. . . accurately describes the exclusive double action cleaning of the ADAMS AIR FILTER . . . centrifugal separation followed by diffusion through the millions of tiny openings of the Poro-Stone element. The filter, installed at the terminal points of your system, completely frees the compressed air of entrained liquid, and any scale picked up in the distribution piping. Expensive production downtime, repairing air operated tools—cleaning fouled equipment components—reworking off-grade spray painting—are all unnecessary *and* eliminated when the Adams Poro-Stone filter provides clean, dry air. Adams units require virtually no service and maintenance — insuring continuous low-cost performance. They are available in a wide range of capacities to suit your needs. Bulletin 118 will give you all the facts. Write for your free copy today. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, N. Y.

ADAMS QUALITY COMES THROUGH

For more details circle NED-44 J1 on enclosed inquiry slip

NEED LOW COST FILTERED WATER?



Why not investigate the many advantages of the ADAMS IWF INDUSTRIAL FILTER for all your water needs? Manufacturing skill backed by 25 years of building water and chemical filters insures you top value for your purchasing dollar. Rugged construction and the Adams Poro-Stone, Poro-Carbon and other permanent metallic filter media practically eliminate maintenance problems. The exclusive Adams air pressure dome dynamically backwashes and flushes out accumulated solids in minimum time — with minimum labor — to give top value for your production dollar. There is an Adams design to solve all your liquid polish filtration problems. Why not investigate the many advantages of an Adams unit in your plant? Bulletin #651 has all the information. Interested in chemical filtration? Ask for your copy of bulletin #431. Automatic filtration? Ask for bulletin #909. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

For more details circle NED-47 J1 on enclosed inquiry slip

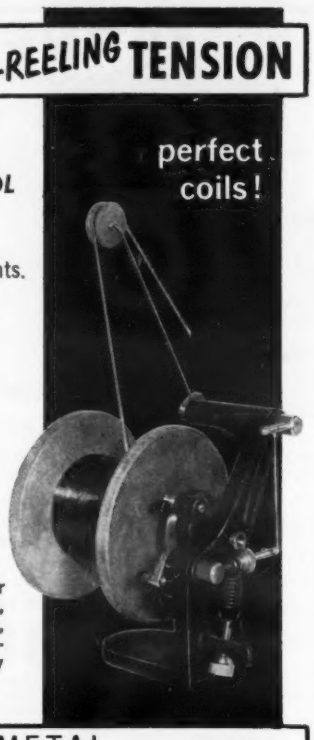
PAMARCO DE-REELING TENSION

FULL RANGE FINGER TIP TENSION CONTROL

- Lowest priced quality "tension" available.
- Small space requirements.
- Can be used on all coil winders. Made in right or left models for efficient operation.
- Made in light and heavy models which handle all wires from 40 to 20 gauge.
- Dependable operation Simple construction.
- No special tools needed Easy to maintain.

Pamarco tensions lower coil-winding costs, eliminate defective coils, permit more simultaneous coil winds on any machine.

For literature write to:



FABRICATED METAL PRODUCTS CORPORATION — EXETER 5-G NEW HAMPSHIRE

For more details circle NED-48 J1 on enclosed inquiry slip

Tack this up on your design board!

NEED A CADMIUM-PLATED RIVET FOR A WIDGET? A MICROSCOPIC EYELET FOR A GADGET? A NAIL, TACK, STAPLE, GROMMET, BURR, WASHER, OR A "YOU-NAME-IT" FOR A "HASN'T-BEEN-BUILT-YET?"

Atlas Has It!

— or will make it up — quickly, in quantity, with quality, in any metal — at a saving! Just send us a few details of your problem for prompt attention.

Specialty Department

Atlas Tack Corp.
Fairhaven, Mass.
Since 1810

For more details circle NED-49 J1 on enclosed inquiry slip

Proven in more than 10 years of use, Akros Non-Slip Walkway Coating provides a safe, slip-proof surface easily and economically. Brush on —use next morning. The durable, safe surface for walks, stairs, docks, decks, step plates, showers, etc. Write for details.

Paint on SURE FOOTING
with economical
AKROS NON-SLIP WALKWAY COATING

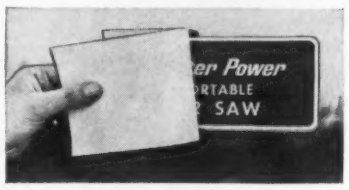
Send for Free Surface "Feeler" and prices.

Inspection walk on 4,000 ft. pipe line painted with Akros Non-Slip Walkway Coating.

THE AKRON PAINT & VARNISH CO.
The Best in Paint Since '78
1380 Firestone Parkway • Akron 1, Ohio

For more details circle NED-50 J1 on enclosed inquiry slip

WATERLESS DECAL
adheres to any clean, dry surface

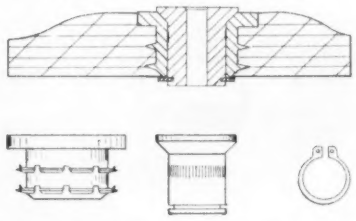


After removing the protective facing paper, Dri-Appli lacquer decal is pressed onto any dry surface. The backing sheet is then stripped off. It is weather resistant, can be made in a full color spectrum, and in transparent or opaque color combinations. It can also be made one or two-sided for application to the top or underside of any smooth flat or curved surface. • **Allied Decals, Inc.**, 20700 Miles Ave., Cleveland 28, Ohio.

For more details circle NED-51 J1 on enclosed inquiry slip

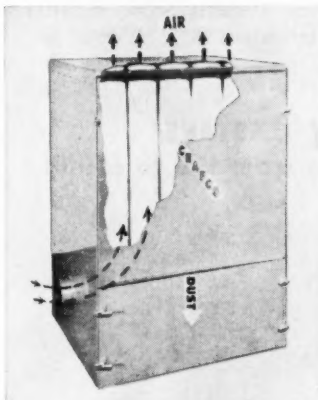
DRILL BUSHINGS
removable type for plastic fixtures

Simplified method of changing bushing sizes in plastic jigs and fixtures is provided by the Fin-Lock drill bushing and its insert. Worn bushings are easily replaced and drill sizes are easily changed without reworking the fixture. Outer bushing is permanently anchored in the plastic; serrations on the insert are sized to provide a push fit into the outer unit. Locking is by standard retaining ring. Stocked sizes are up to 7/16 in. • **H. H. Merriman Co.**, Box N, 1302 W. Ganson St., Jackson, Mich.



For more details circle NED-52 J1 on enclosed inquiry slip

DUST COLLECTOR
recirculates filtered air



Dusts produced in grinding, buffing, polishing, sanding, and sawing operations are removed and collected by the Model A-6 dust collector. Dust laden air is drawn in through one or more ducts connected to the machine source, filtered clean, and recirculated. A receptacle in the base collects the dust. Self contained, portable units may be moved from one machine to another as needed. Filtering is accomplished by 14 flameproofed filter tubes. Model shown as a 1540-cfm capacity at 6250 linear fpm. The 28 x 33 x 48 in. unit is priced at $440. • **Chicago Air Filter Co.**, 4125 W. Washington Blvd., Hillside, Ill.

For more details circle NED-53 J1 on enclosed inquiry slip

Control VIBRATION with VIBRA-MOUNT®

Send today for this VALUABLE NEW BROCHURE on economical VIBRA-MOUNT vibration isolation pads. Eliminate damage to machinery and floors. Available in standard and PERF-O-GRIP® design for maximum isolation (stops creep and crawl).

Your VIBRA-MOUNT distributor will help you select the proper VIBRA-MOUNT and give experienced advice on installation methods.

American Felt Company
702 Glenville Road Glenville, Conn.

*T.M. AMERICAN FELT COMPANY

For more details circle NED-54 J1 on enclosed inquiry slip

MEASURING WHEEL RECORDS ACCURATE MEASUREMENTS AT WALKING SPEED

• Precision-accurate measurements are made **as easy as walking** by the Rolatape 200 Measuring Wheel. Perfect for all types of measuring over relatively smooth surfaces. The Model 200 saves time, because there are no tapes to wind and no helper required.

• The light, versatile Rolatape 200 measures wall to wall as easily as line to line. Vertical and overhead measuring is never a problem, because the Rolatape is operated with only one hand. It provides accurate curve and contour measurements when planning aisles, conveyors and material flow.

• The built-in totalizer records distances traveled in feet; inches and fractions (or tenths of a foot) are shown by the recessed scale on the wheels' circumference. An audible click every two feet permits a running count and a loud bell note, signals each 100-foot mark.

• The Rolatape 200 is constructed of lightweight durable steel—perfectly balanced for fast, accurate measuring. Positive traction is provided by two Neoprene tires precisely ground to the correct circumference. Handle retracts for easy carrying and storage. A fine leather carrying case is included. See your engineering and surveying instrument dealer or write for further information today. **Rolatape, Inc., 1714 - 14th St., Santa Monica 9, California.**

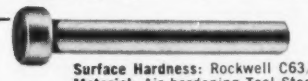
For more details circle NED-55 J1 on enclosed inquiry slip

DURANT TOOL

HEADED PINS...

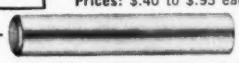
Surface Hardness: Rockwell C58/60
Material: Tool Steel
Sizes: 109 Sizes in std. 2" lengths
Prices: $12.00 to $25.00 per C
Heads left soft
Extra long lengths — up to 6" — available

EJECTOR PINS... (Forged heads)



Surface Hardness: Rockwell C63/65
Material: Air hardening Tool Steel, heat treated
Sizes: 13 Body Dia., Head Dia. and Head Heights in 4" to 10" lengths
Prices: $.40 to $.95 each

MINI-DOWEL PINS...



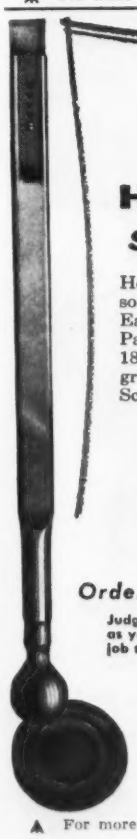
Surface Hardness: Rockwell 62/64
Core Hardness: Rockwell C47/53
Material: Heat Treated Alloy Steel
Single Shear Strength: 160—180,000 P.S.I.
Sizes: 3 diameters, 35 lengths diameters .0002 over
Prices: $3.95 to $16.60 per C
Micro finish RMS 6

All Durant Pins are precision ground to close tolerances and honed to the finest surface finish. No pickup — uniformity guaranteed. Durant manufactures and stocks all types and sizes for immediate delivery in any quantity. They are available through our distributors or you may order direct.

Write for information on initial stock plan and for free folder, including prices and distributors in your area.

DURANT TOOL CO.
17 THURBERS AVENUE, Providence 5, Rhode Island

For more details circle NED-56 J1 on enclosed inquiry slip



Anderson IMPROVED HAND SCRAPER

Saves Costly Regrinding

Here are just a few of the advantages of Anderson Hand Scrapers (1) Faster Cutting, (2) Easier to Use, (3) Just the Right Spring, (4) Palm Fitting Grip, (5) Light in Weight, (6) 18" - 20" - 22" lengths. After the original regrinding most users of this new Anderson Hand Scraper find that only honing is necessary.

$6.75 (18") with high speed steel blades

$9.85 (18") with carbide-tipped blades

$1.75 for rubber bumper shown below

Order Today . . . Money-Back Guarantee

Judge for yourself: Order as many Model 5-A Scrapers as you want. Use them a full week . . . if they don't do the job send them back to us for refund.

Write for Bulletin 9-40
ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

For more details circle NED-57 J1 on enclosed inquiry slip

FOR A JACKPOT OF

MAGNETS

You're a winner every time with Permag. All sizes, all shapes, all grades — stocked for 24-hour delivery. Also magnets engineered and fabricated to your needs.

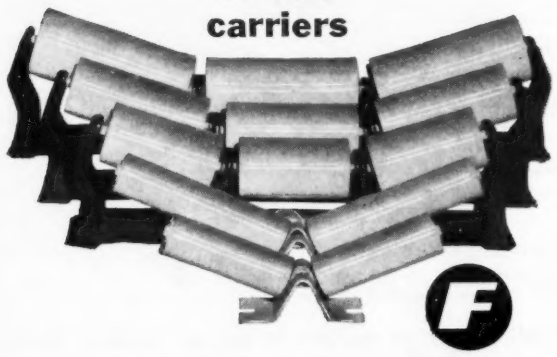
PERMAG

PERMAG CORP.
88-06 VAN WYCK EXPRESSWAY, JAMAICA 18, N.Y.
OLympia 7-1818 • TWX: NY 4-4798

PERMAG PACIFIC CORP.
2910 S. LA CIENEGA BLVD., CULVER CITY, CALIF.
WEbster 6-6251 • TWX: LA 2086

For more details circle NED-58 J1 on enclosed inquiry slip

The Finco family of fine carriers



FINCO carriers give you rugged, "below-the-belt" conveying action — where it counts most! Heavy-duty 5"-dia. rollers, 18"-48" wide in 6" increments; medium-duty 4", 18"-24" widths; low-cost light-duty "Rabbit-Ear" carriers, 8"-24" wide. Available in a variety of roller angles, out-of-stock. You get valuable troughing-action, smooth-performance and long-life with the FINCO-family of carriers. Order your requirements today.

Write for carrier spec sheets and prices

Finco inc. Aurora, Illinois U.S.A TW-6-0836

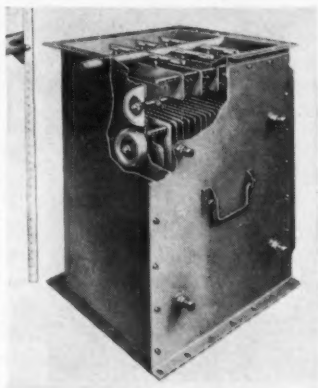
For more details circle NED-59 J1 on enclosed inquiry slip

LEADING TEXTILE COMPANY
Announces Development
OF
DISPOSABLE
CLOTH TOWELS

YOU ARE INVITED TO TRY ONE OR ALL STYLES
DESIGNED FOR
HAND TOWELS WIPING
POLISHING DUSTING
RSVP FOR SAMPLES & INFORMATION
CHICOPEE MILLS, INC.
47 WORTH ST., N. Y. 13, N. Y.

For more details circle NED-60 J1 on enclosed inquiry slip

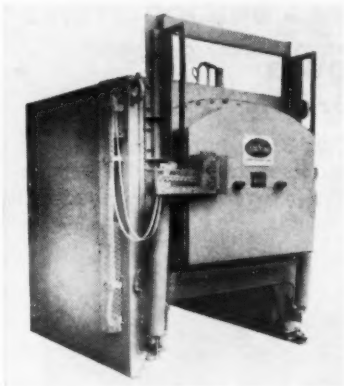
WHITE-ROOM AIR CLEANER
electrostatic unit is 99% efficient



Practically all dust particles and pollutants are removed from air to be supplied to white rooms, underground or isolated power and control rooms, and other locations by line of electrostatic air cleaners. They have guaranteed efficiency in excess of 99 per cent. Both plate and tube types are offered, with capacities from 100 to 11,000 cfm and rated 7 to 17 kv. • **Research-Cottrell, Inc.**, Bound Brook, N. J.

For more details circle NED-61 J1 on enclosed inquiry slip

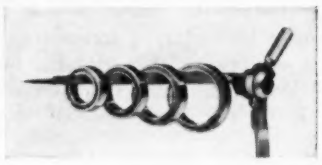
BOX TYPE FURNACE
built in 21 different sizes



Electrically heated Model HG box type furnace can be used with or without protective atmospheres for hardening, annealing, normalizing, or preheating. A foot pedal frees the operator's hands for loading. Heating elements are located in the door, side walls, and below the hearth for even heat distribution. A flame curtain automatically ignites when the door is open to protect the atmosphere. Twenty-one sizes have heating chamber dimensions from 18 x 8 x 5 in. to 96 x 48 x 30 in. Maximum operating temperature is 1950° F. • **Sunbeam Equipment Corp.**, 180 Mercer St., Meadville, Pa.

For more details circle NED-62 J1 on enclosed inquiry slip

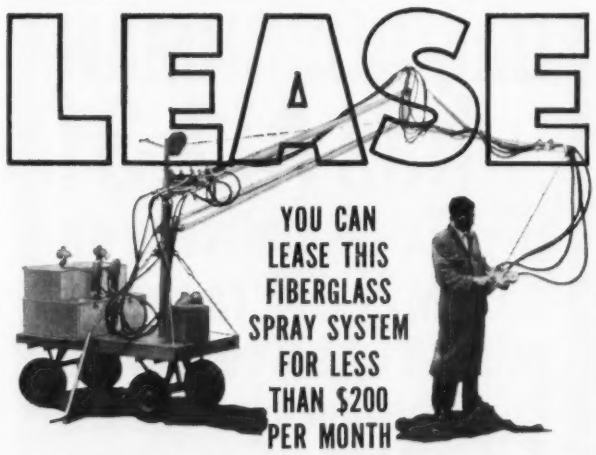
INSTRUMENT BEARINGS
have large bore to OD ratio



Made of Type 440C stainless steel, these thin cross section instrument bearings meet ABEC Class 5 precision standards. The extra large bore-to-outside-diameter ratio allows unusual shaft-to-housing relationships. Bore/OD dimensions in inches are 0.375-0.625, 0.500-0.750, 0.625-0.875, 0.750-1.000. Standard width is 0.1562 in. • **New Hampshire Ball Bearings, Inc.**, Route 202, Peterborough, N. H.

For more details circle NED-63 J1 on enclosed inquiry slip

LEASE



This is the popular fiberglass spray unit manufactured by the Chrom-O-Lite Co. It's portable and it's a prototype of the larger plant-wide resin dispensing systems. It's built for production, but perfect for evaluating the material and the process. There's no guessing when projecting R and D results into production factors. IDEA is proud to offer this Chrom-O-Lite workhorse through its leasing program.

Write IDEA today and find out how you can lease plastics production Equipment.

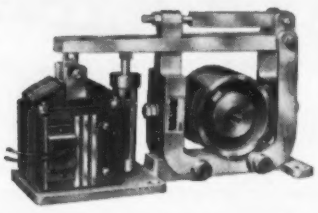
IDEA INC.
INDUSTRIAL DEVELOPMENT AND EQUIPMENT AGENCY
partners in production progress
northwestern bank building
minneapolis 2, minnesota

For more details circle NED-64 J1 on enclosed inquiry slip

TROMBETTA SOLENOID CORP.
MILWAUKEE WISCONSIN
U.S.A
329 N. Milwaukee St. • Phone BRoadway 1-8347

TS-100 LINE OF SOLENOID-OPERATED BRAKES
From 3 to 2100 ft. lbs. Capacity

- Longer Periods Between Adjustments — Less Down Time!
- Laminated Long Stroke Solenoids — Fast Releasing, Fast Operating.
- Lining with Most Constant Coefficient of Friction Gives Uniform Service.



TS-118 SOLENOID OPERATED BRAKE

Long stroke solenoids permit use of 65% of stroke to release brake — 35% of stroke is reserved for lining wear. Extremely flat spring characteristics: no change of torque occurs with wear of lining. Available in wheel diameters from 2.5" to 14". For alternating current, direct current (series or shunt); hydraulic or air operation. Write for Bulletins EE-180, EE-220.

MANUFACTURERS OF HIGHEST CLASS INDUSTRIAL SOLENOIDS OF ALL CAPACITIES FOR ALL APPLICATIONS
IN 1924 MR. TROMBETTA GAVE THE WORLD THE COMMERCIAL SOLENOID

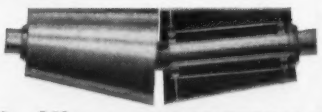
For more details circle NED-65 J1 on enclosed inquiry slip

ROLLS
For Every Requirement

BARE ROLLS
Extremely wide range of sizes, types, and materials of construction. Unsurpassed service and economy for continuous processing of ferrous and non-ferrous strip and all product handling applications.

RUBBER COVERED ROLLS
Any type or size of roll, covered with any durometer, color or thickness of rubber to increase the co-efficient of friction, for chemical resistance, or to prevent marking the product being handled.

PLASTIC COVERED ROLLS
Any type or size of roll, covered with any thickness, of NEMA grade plastic, to prevent marking the product being handled, increase the co-efficient of friction, the chemical resistance, or heat and electrical insulation.



Lorig-Aligner SELF-CENTERING ROLLS
TRADE MARK
Designers, engineers and fabricators of all types and sizes of **Lorig-Aligner** Self-Centering Rolls including Type I, Type II, Type III, Type IV and Narrow Bodied Rolls. The world's largest Type I **Lorig-Aligner** Roll, 60" dia. x 84" face, was built in our plant.

EXPERIENCED ENGINEERING HELP IN
Tracking and Aligning
Ferrous, Non-Ferrous and Alloy Strip; Rubber, Wire Mesh, Fabric and Metal Belts; Paper, Foil and Plastic Webs.
WE GUARANTEE RESULTS!

BARCLAY ROLLS
Write for Bulletin No. 601 Today! It gives full details.

BARCLAY MACHINE, Inc.
794 EUCLID STREET • SALEM, OHIO

For more details circle NED-66 J1 on enclosed inquiry slip

BREATHE EASIER

Double filters provide comfortable breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Patented exhalation valve guards against re-breathing stale air.

Cover scientifically designed respirators have been adopted as standard equipment by industries the world over. Free literature on request describing models for every purpose. See your safety equipment supplier or order sample direct. Model shown—only $2.25 postpaid.

H. S. COVER
Dept. 905, South Bend 14, Ind.
"Respirators for Industry Since 1894"

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Brightboy's *Simultaneous*
Burring • Cleaning
Finishing • Polishing
achieves
TIME SAVINGS UP TO 50%

for working
Metals • Wood • Glass • Fiberglass • Laminated Materials • Some Plastics

Revolutionary Concept of Wider Abrasive Applications Replaces Older, Costlier Methods

CONVINCING PROOF FROM COUNTLESS SOURCES attests the exceptional success of Brightboy's **unique abrasive-and-rubber working action. You have to see it to believe it!**

JOB-MATCHED, READILY AVAILABLE STOCK TEXTURES, in wheels, sticks, rods, blocks and points, are specifically suited to your production requirements; eliminate the necessity of high-cost special compounds and possible delivery delays. Wide range of Silicon Carbide and Aluminum Oxide grains and rubber binders, soft to tough, for manual and machine operations.

GET COST-SAVING, WORK-SAVING DETAILS NOW on the extensive applications of exceptional Brightboy. Write for the BRIGHTBOY CATALOG-MANUAL covering Methods & Applications, Machine Speeds, Job-Matched Stock Items; Complete Range of Wheel Sizes.

WELDON ROBERTS
Brightboy
RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th St., Newark 7, N.J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

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Send for **FREE** new 1961 **EICO** Electronics Catalog

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☐ Send free 32-page catalog & dealer's name
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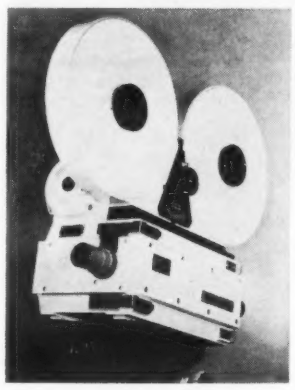
HIGH SPEED CAMERA has 1200-ft film capacity



Variable speed range in the WF-30 Fastax high speed motion picture camera is controlled by a solid state loop servo device which permits rapid acceleration and regulated velocity within ±4 per cent of preselected rate. It incorporates good resolution over the entire frame, lens and rotating prism sector shutter combination, and through-the-lens viewing for picture composition and focusing. Camera has a film capacity of 1200 ft, darkroom loaded in a T-core magazine. Timing marker, electrical interlock, ready light, speed indicator, footage indicator, and 115-v, 60-cycle ac drive motor are built in. Most existing Fastax bayonet type lenses can be used. • **Wollensak Optical Co.,** 850 Hudson Ave., Rochester 21, N. Y.

▲ For more details circle **NED-70 J1** on enclosed inquiry slip ▲

48-IN. GRASS MOWER mounts on Gravely tractors

Designed for mounting on Gravely tractors, this 48-in. mower has wide application in industrial lawn maintenance. Swivel construction enables cutter blades to

follow ground contours; side runners eliminate scalping under all but the most severe conditions. Three 16-in. hardened steel blades which provide a 47-in. cut are designed to create a strong vacuum that lifts grass upright for clean, uniform cut. Height of cut can be adjusted in ½-in. steps from 1 to 3 in. Mower is attached by means of four bolts and is maneuvered easily by virtue of free-swinging caster wheels. It can be equipped with a mulcher for pulverizing fall leaves. • **Pennington Mfg. Co.,** Addison, Ill.

▲ For more details circle **NED-71 J1** on enclosed inquiry slip ▲

Hydraulic Presses

FREE South Bend Lathe, Inc.—The 30, 50, 75, and 100-ton Hydrolair and the 30-ton hydraulic laboratory presses are featured in 8-page Catalog 6106. Hot plates and accessories are shown, as are details of the Power-Petuator air-hydraulic intensifier.

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Only BUSCHMAN has ALL 3!

IN-STOCK delivery on a COMPLETE range of roller & wheel conveyors for Light, Medium, & Heavy Use

LIGHT — #138 Rollers. Rust-resistant. For low-cost carton handling. 12" to 18" widths.
MEDIUM — Aluminum, steel; wheel or roller. QUICK-EEZ couplings. 12", 15" & 18" widths.
HEAVY — #190 Rollers. High capacity handling. 15", 19" & 25" widths.

Write today for literature

Buschman CONVEYORS 372

Complete Conveyor Systems for all Types of Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities

The E. W. Buschman Company, 4482 Clifton Avenue, Cincinnati 32, Ohio

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Suppress damage from arcing without affecting relay performance.

There's no physical resistor in these unique RC units to slow down your relays.

You get both faster release time and greatly increased contact life—all in a single package.

These RC units are faster and neater and more compact in installation than standard resistor-capacitor networks.

AT A NEW LOW PRICE

For a catalog containing both specifications and a most instructive general discussion of arc suppression write

PRESIN co. 2014 Broadway, Santa Monica, Calif.

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OPEN-GRIP SAFETY GRATING

One-piece construction
"No-cost" maintenance
Easy to install
Self-cleaning debossed holes
Upset perforated buttons-anti-skid in all directions

NOW! Immediate delivery in popular standard sizes!

Economical OPEN-GRIP is widely used for walkways, stairs, catwalks, ramps, platforms—*any* application where mud, snow or ice make ordinary surfaces hazardous and hard to keep clean. Available in steel, in a variety of stock sizes; or, custom fabricated to your requirements. Also available in aluminum.

Distributed nationally by JOSEPH T. RYERSON & SON, INC.

MADE BY
Morton MANUFACTURING COMPANY
5125 West Lake Street • Chicago 44, Illinois

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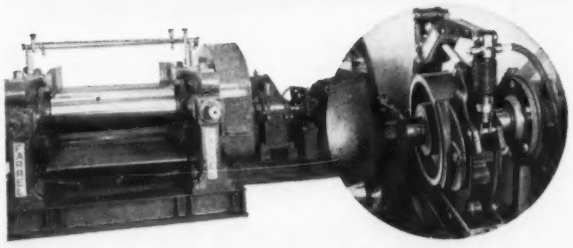
WAGNER® EMERGENCY BRAKE SYSTEM



Stops "Inrunning rolls" within safety limit

A Wagner® A/H Emergency Brake System protects the operator of this Farrel-Birmingham rubber mill against the hazards involved in operating machinery with inrunning rolls. An industrial-type brake is applied by an air-operated hydraulic power cluster to smoothly stop rolls well within the limit set by safety codes. The Wagner system minimizes strain on the machine drive, and incorporates safety devices that provide protection in the event of power failure or loss of air pressure.

Wagner brake systems are easy to install . . . don't need special motor starters or controls, or direct current. Need little care, too . . . there is practically no lining wear; no heavy solenoid coils to burn out.

Apply these systems to your rubber or plastic mills, refiners, washers, crackers. Available with 6, 8, 10, 14, or 18 inch diameter brakes. Get full details from your Wagner Sales Engineer.

Wagner Electric Corporation
6435 PLYMOUTH AVENUE, ST. LOUIS 33, MO., U.S.A. W161-4

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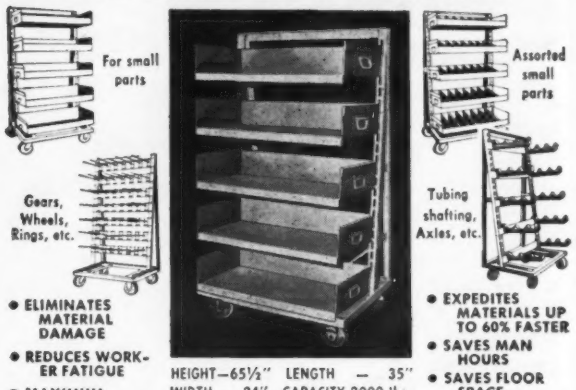
THE VER-T-RACK

THE ACME OF VERSATILITY



- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT—65½" LENGTH — 35"
WIDTH— 24" CAPACITY 2000 lbs.

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- GREATER SAFETY FACTOR

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck.
Trays are adjustable on VER-T-RACK
PRICE — $49.50 Varied Accessories Extra

Slightly higher west of the Rockies Write today for descriptive literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO

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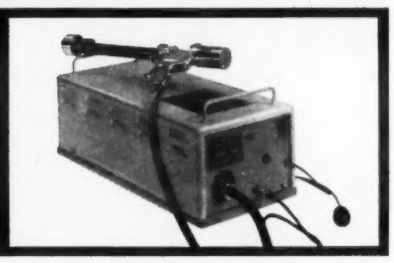
NEW



Sames "STAJET"

PORTABLE POWDER SPRAYER

Provides electrostatic application of all dry powders, thermosetting plastics & enamels for industrial coating operations...Sheet Metals, Textiles, Fabricated Materials, Finished Products...

Features:

- Uniform coverages for irregular shapes, sizes or contours.
- Excellent adherence, using charged particle principle.
- Maximum Safety: Electrical discharge is harmless to operating personnel. No material over-spray requiring masks or spray booths.
- Portable/Mobile: Complete unit weighs less than 70 lbs.

Includes: 90 KV Generator, Spray Gun, Powder Container with Vibrator & Feed Control, Air-Material Hose & Cables.

Write now for technical literature:

Sames 30 Broad Street, Room 3701 New York 4, New York

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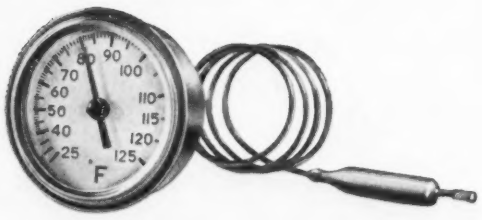
Rochester Remote Reading Thermometers



There are practically no limits as to the specialized applications for Rochester thermometers. This remote reading thermometer is hermetically sealed, is available in a wide variety of ranges and capillary tube lengths. Write to American-Standard Controls Division, 5900 Trumbull, Detroit 8, Michigan.

AMERICAN-Standard
CONTROLS DIVISION

▲ For more details circle NED-79 J1 on enclosed inquiry slip ▲

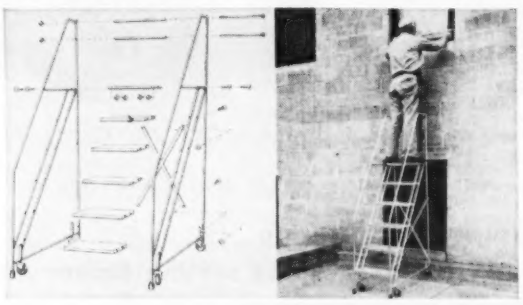
DISPOSABLE COTTON CLOTHING
low cost permits discarding

Line of lightweight cotton clothing costing as little as half the price of conventional cotton clothing permits discarding after each wearing. Typical prices are $1.70 for a laboratory coat, $1.60 for a wrap-around garment, and $2.30 for complete coveralls, based on orders for 30 dozens of one item to one destination. These prices are reportedly substantially lower than the cost of laundering conventional cottons, particularly where clothing is exposed to radiation. • **Olympic Glove Co.**, 95 Madison Ave., New York 16, N. Y.

▲ For more details circle NED-80 J1 on enclosed inquiry slip ▲

SAFETY ROLLING LADDER
knocked-down type easily assembled

Only a wrench and a screwdriver are required to assemble the KDF (knock down flat) rolling safety ladder. Supplied in a 4-in. thick carton, the rigid



steel unit is equipped with casters. Components include two welded side frames, reinforced expanded metal steps, back X-brace, two horizontal back rails, and fasteners. Twenty different models with 2 to 7 steps have top-step heights from 19 to 66½ in. Widths are 17½ and 25½ in. Handrails and solid ribbed rubber treads are available. • **Patent Scaffolding Co.**, 38-21 12th St., Long Island City 1, N. Y.

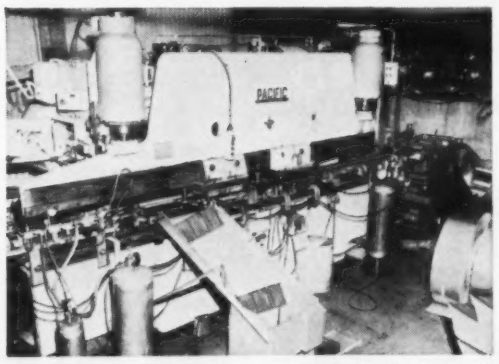
▲ For more details circle NED-81 J1 on enclosed inquiry slip ▲

Commercial Plastics

Another up-dated version of company's catalog on plastics in sheet, rod, tube, and film forms is now available and includes several products never before offered. Catalog is compiled to enable buyers to locate the exact plastic they require quickly and to determine the exact range of sizes and widths in which it is available. Available only by writing on letterhead to **Commercial Plastics & Supply Corp.**, New York, N. Y.

▲ For more details circle NED-82 J1 on enclosed inquiry slip ▲

PACIFIC HYDRAULIC...THE FAST PRESS BRAKE produces 40 shingles per minute automatically



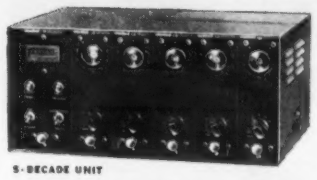
To match most production requirements, Pacific Hydraulic press brake can be set to a short stroke to eliminate all wasted motion and to cycle at high speeds. At Precision Industries, Honolulu, a single 150 ton Pacific produces, completely automatically, 40 shingles of 20 gauge aluminum every minute combining 7 separate operations with each stroke of ram. The press has an automatic feed including coil cradle, straightening roll, air slide feed, progressive dies and air ejector. Any plant, large or small, can handle a variety of jobs more economically on a Pacific.

Write for brochure.

PACIFIC PRESSES & SHEARS
848 - 49TH AVE., OAKLAND, CALIF.: also MT. CARMEL, ILL.

▲ For more details circle NED-83 J1 on enclosed inquiry slip ▲

accelerate production,
improve accuracy, cut costs with



Tally-COUNT® electronic predetermining counter

Tally-COUNT automatically counts precise units into a container . . . determines exact footage from a roll . . . stops and recycles machine operations at preset counts, at electronic speeds.

Tally-COUNT is actuated by external contacts or electronic impulses; control relay operates required mechanism: solenoid, motor, cut-off knife, etc.

Optional plug-in accessories: Batch Register, Photo-Electric Eyes, Footage Counters, Multiple Pre-Set Decades.

SPEEDS OPERATION
ELIMINATES GUESSWORK
BOOSTS PRODUCTION

Photo-Electric
FOOTAGE COUNTER

for use on PAPER, CLOTH, PLASTICS, METAL, etc.

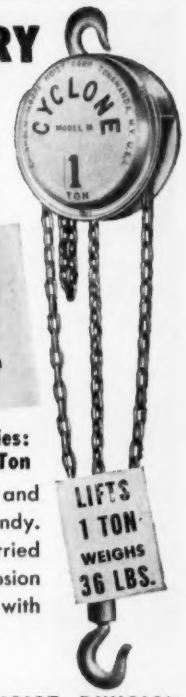
For measurement and control of production. Measures, marks, cuts, stops. Lineal measuring wheels for yards, feet, 10ths of feet or inches.

Write for Brochure CP-9.

standard INSTRUMENT CORPORATION
657 BROADWAY, NEW YORK 12, N. Y.

▲ For more details circle NED-84 J1 on enclosed inquiry slip ▲

EASIER TO CARRY
EASIER TO HANG
EASIER TO USE



CM CYCLONE
LIGHT WEIGHT • HEAVY DUTY • ALUMINUM ALLOY
CHAIN HOIST

Capacities: ¼ to 10 Ton

All sorts of lifting jobs get done faster and safer when you have a Cyclone Hoist handy. Quickly pays for itself. Can be hand-carried on the job. Lifetime lubricated. Corrosion resistant. Easier to operate. Equipped with CM-Alloy flexible welded load chain.

Write for Cyclone Catalog

CM HOISTS
CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CORPORATION
FREMONT AVE., TONAWANDA, N.Y.
NEW YORK (Mountainside, N.J.)
CHICAGO • CLEVELAND • SAN FRANCISCO
In Canada: Columbus McKinnon Limited, St. Catharines, Ontario

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Stop Corrosion "Cold" at Red Hot Heats!

MARKAL "S-R" COATINGS—

give permanent protection to metals against corrosion, oxidation and scaling at temperatures as high as 2200°.

You can use "S-R" on a wide variety of applications such as stacks, retorts, furnaces, ducts, kilns, exhausts, mufflers, manifolds and many others. There's no peeling or cracking even during sudden temperature changes.

Markal "S-R" is easy to use, can be brushed or sprayed.

WRITE on company letterhead for complete information, literature and recommendations.

MARKAL . . . The Mark of Quality

MARKAL COMPANY
3053 West Carroll Avenue Chicago 12, Illinois

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Handiest TOOL IN THE PLANT!

CLEMENTS Cadillac® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

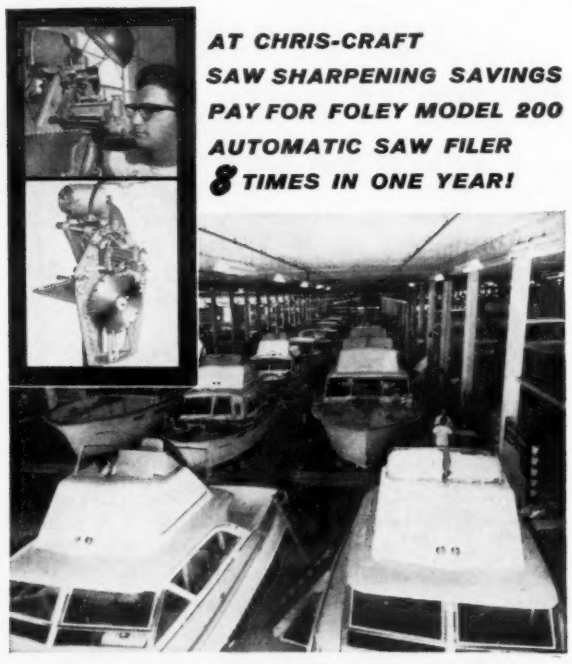
4 BLOWER-SUCTION MODELS
...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

HANDLES 101 CLEANING JOBS
Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | **CLEMENTS MFG. CO.**
6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

For more details circle NED-87 J1 on enclosed inquiry slip



AT CHRIS-CRAFT SAW SHARPENING SAVINGS PAY FOR FOLEY MODEL 200 AUTOMATIC SAW FILER 8 TIMES IN ONE YEAR!

Chris-Craft Corporation's plant in Pompano Beach, Florida, has over 100 carpenters who put the Foley Model 200 to good use keeping saws "working sharp". "Saws require sharpening once a week, or roughly 1800 separate sharpenings per year", reports Benjamin F. Weisel, chief tool repairman. Chris-Craft saves approximately 40 minutes per saw—up to 1200 hours yearly with the Foley Model 200. Additional savings are realized in Foley's maintenance-free performance and in properly sharpened saws for the workmen.

The Foley Model 200 Saw Filer automatically sharpens hand saws, band saws, rip and cross-cut circular saws and the difficult-to-sharpen combination circular saw blades. In minutes the Foley Model 200 files all teeth to a uniform depth and angle, while the operator is free to handle other jobs. The Model 200's quality construction delivers years of precision sharpening service.

Chris-Craft Corporation is just one of many manufacturers who have saved time, saved money and stepped up sawing production the Foley way. See for yourself what the Model 200 can do in your own shop. Send the coupon for literature on Foley industrial applications and complete details on the Foley thirty day free trial offer.

FOLEY MFG. CO. 3323 N. E. 5th Street Minneapolis 18, Minnesota

I'm interested! Please send industrial saw filing literature and details on 30-Day Trial Offer.

NAME:_____

FIRM:_____

ADDRESS:_____

CITY_____ STATE_____

For more details circle NED-88 J1 on enclosed inquiry slip

KNOCK-DOWN WIRE SHELVING is rated 1000 lb per shelf

Tempered steel channels which lock securely on reinforced uprights contribute to strength and ease of assembly of this Stak-Easy wire shelving. Ten shelf and upright sizes plus several accessories adapt it to practically any space or arrangement need. Each shelf is rated 1000 lb. Shelving can be disassembled and rearranged, and it adjusts to uneven floors. Permanent zinc or chrome finishes are available. • **Oil-Dri Corp. of America,** 520 N. Michigan Ave., Chicago 11, Ill.

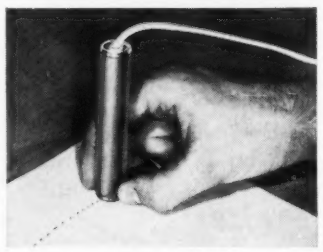
For more details circle NED-89 J1 on enclosed inquiry slip

HOUR METERS in voltage range from 110 to 550

Alternating-current hour meters to record operating or running time are now available in voltages from 110 to 550, 60 cycles. The accurate, 2 7/64-in. diameter instruments have large, easy-to-read figures and are sealed in dehumidified cases to eliminate fogging of glass face. • **Engler Instrument Co.,** 250 Culver Ave., Jersey City 5, N. J.

For more details circle NED-90 J1 on enclosed inquiry slip

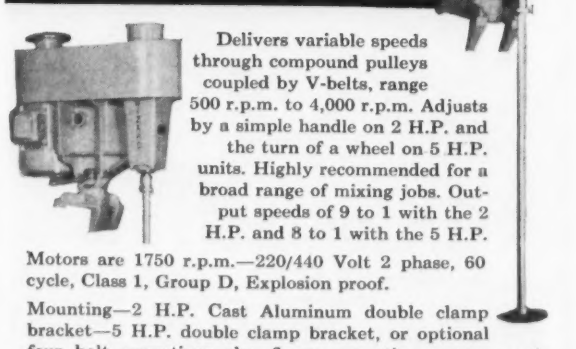
IMPULSE RECORDER for checking and setting timers



This pocket-size, hand-operated CXC Impulse Recorder can be used to check and set any fractional-second timer used to actuate electric or electronic equipment. After connection to timer output leads, recorder is moved in a circular motion on a sheet of paper as the timer is actuated. Recorder marks a series of dots on the paper, indicating the number of electric impulses. Dots are counted to determine the exact time, with 1 sec equalling 120 dots. Unit is intended for use on 50/60 cycle ac only, has a voltage range of 70 to 230, and provides practical timing range of 1/120 to 2 sec. Price is $15. • **Continental X-Ray Corp.,** 1536 Clybourn Ave., Chicago 10, Ill.

For more details circle NED-91 J1 on enclosed inquiry slip

AMERICA'S MOST
RELIABLE MIXERS
A NEW CONCEPT IN PORTABLE AGITATION
Patterson -FOUNDRY'S WIZARD



Delivers variable speeds through compound pulleys coupled by V-belts, range 500 r.p.m. to 4,000 r.p.m. Adjusts by a simple handle on 2 H.P. and the turn of a wheel on 5 H.P. units. Highly recommended for a broad range of mixing jobs. Output speeds of 9 to 1 with the 2 H.P. and 8 to 1 with the 5 H.P.

Motors are 1750 r.p.m.—220/440 Volt 2 phase, 60 cycle, Class 1, Group D, Explosion proof.

Mounting—2 H.P. Cast Aluminum double clamp bracket—5 H.P. double clamp bracket, or optional four bolt mounting; also flange mounting arrangements with base plates or stuffing box.

Many sizes available from lower power units than mentioned above to those up to 60 H.P.

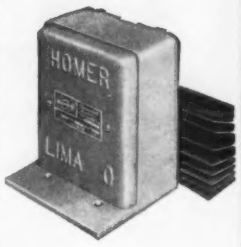
Write today for details on Wizard Portable Agitators

PATTERSON FOUNDRY AND MACHINE CO.
East Liverpool, Ohio • Toronto, Ont. Canada

For more details circle NED-92 J1 on enclosed inquiry slip

2 WAYS TO REDUCE COSTS

USE HOMER MAGNETIC SHEET SEPARATORS...



To speed handling of round, square, irregular or nested steel shapes in shearing, pressing or other production operations. Automatically separate stacks of oily, polished, enameled or painted sheets without prying, scratching or marring the surfaces.

WRITE FOR BULLETIN SS-210

USE HOMER MAGNETIC SWEEPERS...

To cut plant housekeeping costs by quickly and easily keeping aisles and roadways free of ferrous scrap. Homer Magnetic Hand Sweepers available in sweeping widths 12" to 36". Road sweepers, widths 48" to 96".

WRITE FOR BULLETIN MS-250-1

HOMER MANUFACTURING DIVISION
THE OHIO ELECTRIC MANUFACTURING CO.
DEPT. 124 • LIMA, OHIO

For more details circle NED-93 J1 on enclosed inquiry slip

WABASH PRESSES CUT COSTS FOR PLASTICS AND RUBBER MOLDERS

Wabash Hydraulic Presses will give you fast, economical production and the delivery scheduling that customers like. Low initial cost—low maintenance cost—easy to operate.

Shown above are a few of the Wabash Presses in action at Periflex Corporation, Hazel Park, Michigan, makers of molded rings, seals, packing and gaskets. These 50-ton Wabash Hydraulic Presses with 3 heated platens are but one of many Wabash designs that cost less to own and operate.

Platens independently heated. Chromed columns. Precision bored guide holes. Fast response. Simplified controls. Send for literature and list of users.

Wabash Metal Products Co.
1506 Morris Street, Wabash, Indiana
Phone: Wabash 583

For more details circle NED-94 J1 on enclosed inquiry slip

GET THE ANSWERS

TO YOUR DEMINERALIZED WATER PROBLEMS FROM THIS CATALOG

Get the Big Picture on Mixed-Bed, Two-Bed, Four-Bed, and Laboratory Demineralizers. Catalog #160 brings you the facts on constant pH, high electrical resistance, silica and CO_2 removal plus the removal of organics, inorganics, bacteria, gases and submicroscopic particles.

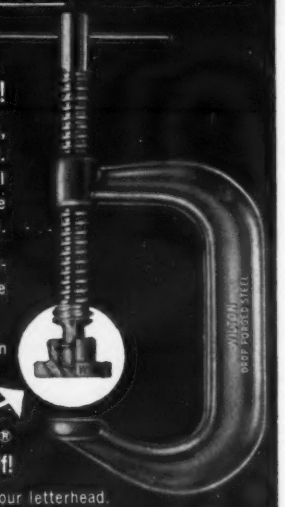
The equipment illustrated produces what is probably the world's purest demineralized water for production use . . . at a rate of up to 5000 gallons per hour.

Extensive case histories are reviewed and discussed. Special section on Tin-Lined Piping and Fittings, Automatic Controls, MF® Submicron Filters. Transistor Washers etc. Get Catalog #160. Write today.

Barnstead®
STILL AND STERILIZER CO.
16 Lanesville Terrace, Boston 31, Mass.

For more details circle NED-95 J1 on enclosed inquiry slip

BUY THE RIGHT CLAMP!



Make sure it has these important Wilton features!

1 CORRECT SIZE, STRENGTH, CAPACITY . . . COMPETITIVE PRICE. Your Wilton Distributor has 11 full series to choose from . . . in the style and price range you need.

2 HARDENED SPINDLES . . . Specially hardened in our white hot fire bath process.

3 PAINTED AND BOXED . . . in individual, protective cartons.

4 LOOSE-PROOF SWIVELS — the original "Perma•Pad"® guaranteed never to come off!

For more facts, attach this ad to your letterhead.

BUY WILTON!

BE SURE OF GETTING THE RIGHT CLAMP!

WILTON TOOL MANUFACTURING CO. INC.
SCHILLER PARK, ILLINOIS

Wilton C-Clamps are stocked and sold by leading Industrial Distributors everywhere.

NED-91

For more details circle NED-96 J1 on enclosed inquiry slip

Gentlemen Be Seated

AT A QUALITY TABLE BY PARENT

NO. 1352 UTILITY TABLE

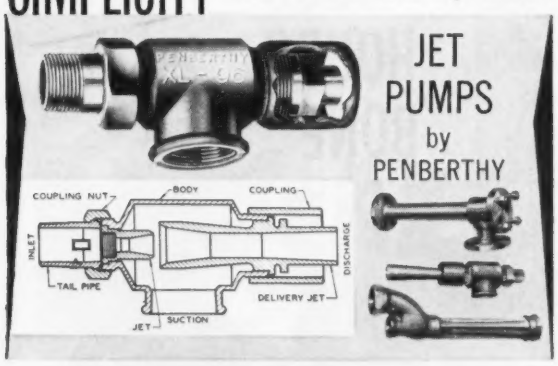
Choice of maple, masonite, linoleum or formica tops.

This sturdy all purpose steel table has many uses: Assembly, Shop, Factory, Plant Layout, Drafting Room, Dispensary and General Office. Top sizes: 48"x30", 60"x30", 72"x30" and 72"x36". All steel base has square tapered legs with flush fitting Cadmium plated shoes. Write For Free Catalog.

PARENT METAL PRODUCTS
INCORPORATED
6801 State Road • Dept. N-26 • Philadelphia 35, Pa.

For more details circle NED-97 J1 on enclosed inquiry slip

SIMPLICITY for trouble-free operation



If you have a liquid heating, circulating, aerating, agitating, pumping or blending application (to mention a few), you'll find, chances are, that there just isn't a more economical, efficient, trouble-free device for handling the job than a Penberthy Jet Pump. They cost little to buy, little to install. And maintenance? Practically non-existent, for there are no moving parts, no packing glands, nothing to lubricate.

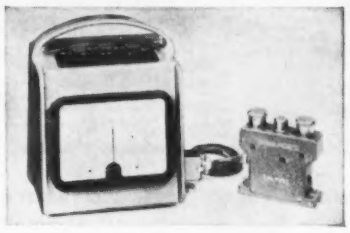
Penberthy, what's more, as the #1 name in Jet Pumps . . . with almost 70 years' experience in the field . . . offers you the broadest available selection of models, standard or special, steam, air or liquid operated, in a variety of materials. Ask a Penberthy engineer for assistance with your jet pump application.

PENBERTHY MANUFACTURING COMPANY
Division of Buffalo-Eclipse Corporation
PROPHETSTOWN, ILLINOIS
SALES OFFICE: 2660 E. GRAND BLVD., DETROIT 11, MICH.

PENBERTHY

For more details circle NED-98 J1 on enclosed inquiry slip

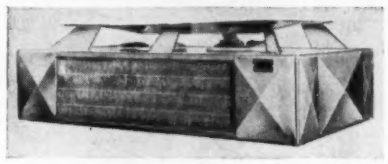
ELECTRONIC LEVEL
meter can be 300 ft from level



A pendulum and a pair of variable inductance transducers which feed a signal to a transistorized amplifier and center-zero meter comprise this Talyvel battery-operated electronic level. Meter is scaled in both angular and linear measure to show precisely the amount of tilt. Level unit can be mounted in difficult-to-reach places, while meter is conveniently located up to 300 ft away. It is usable in machine tool testing and releveling, on launchers for missiles and rockets, and in determining the sway of large structures. It may also be permanently installed in machines and buildings. Two units will check surfaces in two directions simultaneously. • **Engis Equipment Co.**, 431 S. Dearborn St., Chicago 5, Ill.

For more details circle NED-99 J1 on enclosed inquiry slip

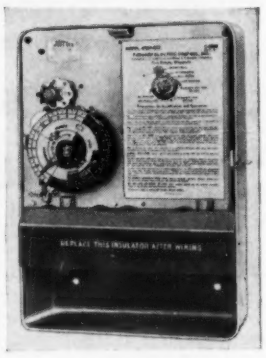
CEILING UNIT COOLER
provides draft-free circulation



Usable in meat cutting rooms, coolers, and other low temperature areas, KDF Duoflo ceiling unit cooler uses either brine or ammonia refrigerant. Features include an insulating pan to eliminate condensation, electrically welded coil which is hot dip galvanized after fabrication, and fans direct-driven by resilient-mounted 115-v ac $\frac{1}{3}$-hp motors. Various capacities are offered. • **Kohlenberger Engineering Corp.**, 1600 Commonwealth, Fullerton, Calif.

For more details circle NED-100 J1 on enclosed inquiry slip

AUTOMATIC TIME CONTROL
can handle four separate circuits



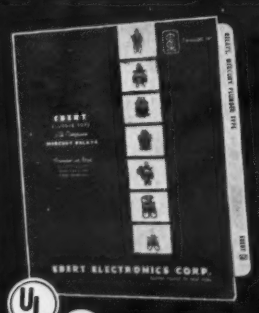
With one simple setting of the Astro-Dial time control, it will turn lights on in relation to sunset and off at any preselected time with no further adjustment for seasonal changes. The 47007-SZ Series 24-hr control can be used with incandescent, mercury-vapor, or neon lighting circuits and has four-pole single-throw, 4NO isolated contacts rated 20 amp at 120 or 208-240 v, 690 va pilot duty. Three extra jumpers are furnished. • **Paragon Electric Co.**, Two Rivers, Wis.

For more details circle NED-101 J1 on enclosed inquiry slip

FREE MANUAL

on function and uses **MERCURY RELAYS**

for all loads up to 100 AMPS



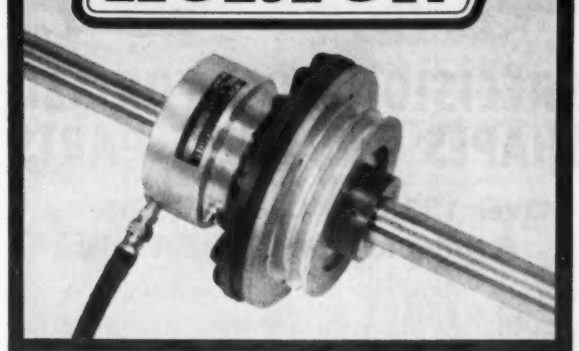
FREE: The standard reference manual on all types and applications of Mercury Plunger Relays. Silent, hermetically sealed, compact, miniature units providing millions of continuous makes and breaks with no maintenance. No pitting or corrosion.

Send for FREE MANUAL and 30-day FREE TEST details

EBERT ELECTRONICS CORP.
212-19 Jamaica Ave., Queens Village 18, N. .Y.
CANADA: Philips Electronics Industries Ltd., Toronto 17
EXPORT: Philips Export Co. New York City

For more details circle NED-102 J1 on enclosed inquiry slip

HORTON



"AIR-CHAMP" CLUTCHES . . .
have built-in rotary Air joint! Mount anywhere!

A combination clutch and sheave, the "Air Champ"* automatically tunes trouble out of starting problems. *Gives shockless starts!* Installs easily . . . anti-friction bearings . . . "V" belt or pilot adapter type drive . . . control with static air pressure. 4 models; up to 2,500 inch lbs. of torque. Ask us about "Air-Champ" *brakes!* Write for brochure. *Patent pending

HORTON MANUFACTURING CO., INC.
1179 15th Ave. S.E., Minneapolis 14, Minn.

HORTON

For more details circle NED-103 J1 on enclosed inquiry slip

PROVEN PERFORMANCE

Alkon's Series A 4-way valve. Carbide-hard surfaces insure long life with low maintenance.

NEW Pilot-operated solenoid valve for greater circuit flexibility — complete 3/8" line now added to 50-million-cycle reliability of 1/4" line. All actuators available. 1/4" and 3/8" sub-plate mounting standard.

LOWEST PRICES

and high value are the hallmarks of all Alkon products — valves, cylinders and drill units. Check these prices!

NEW pilot operated single solenoid valve . . . $29.75

NEW pilot operated double solenoid valve . . . $44.75

Write today for new 24-page catalog on Alkon valves, cylinders and drill units!

Alkon Products CORPORATION
200 Central Avenue,
Hawthorne, New Jersey
HAwthorne 7-6633

alkon

For more details circle NED-104 J1 on enclosed inquiry slip

PRECISION ROLL-FORMED SHAPES AND PIECE PARTS

Over 153,000 Different Shapes Available from Stock Tools!

STANDARD AND CUSTOM MADE

Blank size .005 thru .312 thick x .200 thru 40" wide x coil. Large stocks of formed angles, channels and zee bars available for immediate shipments.

What are YOUR needs?

WOODSIDE
Engineering Company

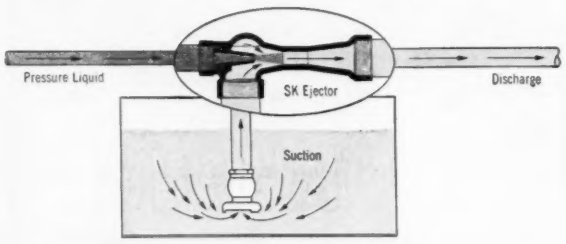
GRAND AVE. AND WILLOW STREET
FRANKLIN PARK (CHICAGO SUB.), ILLINOIS
Gladstone 5-9410

For more details circle NED-105 J1 on enclosed inquiry slip

SK Liquid Jet Ejectors
PUMP AND MIX SIMULTANEOUSLY

SK Liquid Jet Ejectors utilize the kinetic energy of a liquid under pressure to entrain, mix, and pump liquids or handle slurries and granular solids. Uses vary from pumping out a sump to mixing chemicals in proper proportions.

Some user benefits: (1) *economy*—a 2-inch, bronze unit costs only $51.00; (2) *maintenance-free service*—simple construction and lack of moving parts makes supervision unnecessary; (3) *availability*—stocked in popular sizes in Pennsylvania, Texas, California; (4) *adaptability*—made and stocked in cast iron, bronze, stainless steel, asbestos-filled resin, PYREX brand tubing, and PVC.



For details—ask for Bulletin 2M

Schutte and Koerting COMPANY
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
Phone: MErcury 9-0900 TWX: Cornwells, Pa., 69-"U"
JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS

For more details circle NED-106 J1 on enclosed inquiry slip

NEW DEWALT IDEAS BUILD NEW PROFITS!

Does new jobs...no extra cost!

DEWALT reduces your investment 60% or more. It does the work... saves the cost and space...of *many* power tools. Use coupon for free copy of new DeWalt IDEA BOOK.

DEWALT, Inc., Dept. NE-961 Lancaster, Pa.
Please send free DeWalt IDEA BOOK.

Name_____
Address_____
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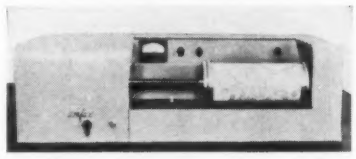
Custom-built by DEWALT, Inc., A *Black & Decker* SUBSIDIARY

For more details circle NED-107 J1 on enclosed inquiry slip

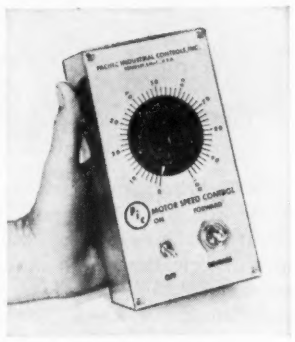
FACSIMILE EQUIPMENT
rapidly transmits copies anywhere



Production and inventory reports, working plans, layouts, letters, orders, sales reports, financial information, charts, and photographs are transmitted between plants, offices, or sections of a plant by Amfax facsimile equipment without need for trained personnel. Rapid transmission of material in exact detail is attained by the table model transmitting and receiving equipment. Written, printed, or photographic copy is sent in either direction over telephone lines, direct wire, or microwave at the rate of 3¼ min per letter-size document. It transmits by drum feed any type of black and white copy from any paper up to 8½ x 13 in. Thirteen distinct degrees of shading between black and white are obtainable. Color is received in varying tones of black on white. • **American Facsimile Corp.**, 160 Coit St., Irvington, N. J.

For more details circle NED-108 J1 on enclosed inquiry slip

MOTOR SPEED CONTROLS
for 1/12 through 3-hp dc motors



Fifteen off-the-shelf models comprise the line of alternating-current variable speed controls for direct-current motors from 1/12 through 3 hp. The VT Series units are easily connected to any shunt or compound wound motor and provide infinitely-variable speed control from zero to maximum motor speed in either direction. A reversing switch is included in each control. • **Pacific Industrial Controls, Inc.**, 1212 Sixth St., Berkeley 10, Calif.

For more details circle NED-109 J1 on enclosed inquiry slip

ASSEMBLY & INSPECTION BENCH
has smooth, durable work surface

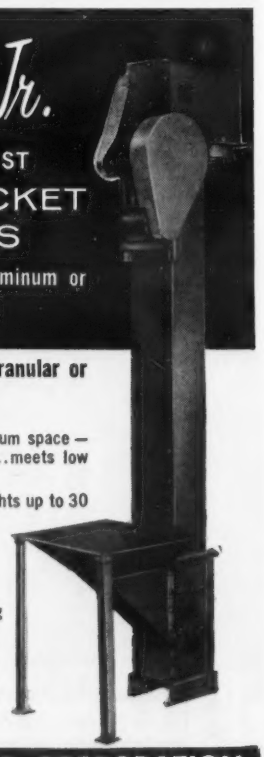
Equipped with a smooth, durable Insurok laminated phenolic top made by Richardson Co., Melrose Park, Ill., this assembly and inspection bench is sturdy and has a metal frame. The resilient top is undamaged by dropped or mishandled parts. Its light tan color aids in identifying or finding small parts. Bench can be furnished with heavy duty casters for portable use. • **Abrasive & Supply Co.**, 15443 Woodrow Wilson, Detroit, Mich.

For more details circle NED-110 J1 on enclosed inquiry slip

Bucketlift Jr.

COMPACT, LOW COST
VERTICAL BUCKET ELEVATORS

Stainless steel, galvanized, aluminum or all steel construction.



Handles up to 15,000 lbs. of granular or powdered material per hour!

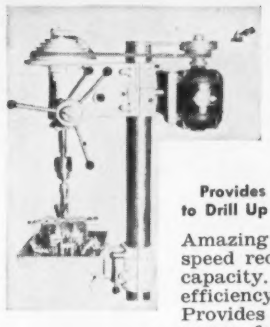
- Compact construction takes minimum space—fits into tight machinery layouts...meets low headroom requirements.
- Bucketlift is self-supporting—heights up to 30 feet high.
- Easy to feed, low loading height reduces job fatigue, increases efficiency.
- Removable panel for easy cleaning or inspection.

A Bucketlift Jr. Vertical Bucket Elevator can help solve your material handling problem at low cost. Call or write for information.

M-H STANDARD CORPORATION
515 Communipaw Ave., Jersey City 4, N. J., HE 3-5834

For more details circle NED-111 J1 on enclosed inquiry slip

New "PULL-GEAR"
SPEED-REDUCING PULLEY
Increases Drill Press Capacity



Provides Correct Speed and Power to Drill Up to 1⅜" with ½ H.P. Motor

Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity. Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approx. 45 to 3000 RPM. Made in 3 motor shaft sizes: ½"-⅝"-¾". Write for literature.

THE PULL-GEAR CO.
13521 E. Eight Mile Rd.
Warren, Mich.

WRITE FOR LITERATURE

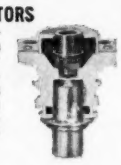
DEALERS: Chicago, Ill.—Chicago Supply & Tool Co.
Cleveland, Ohio—Reynolds Machinery Co.
Los Angeles, Calif.—Almquist Brothers
New York City—Rudolph Bass

For more details circle NED-112 J1 on enclosed inquiry slip

measurement and control
OF PRESSURE AND DIFFERENTIAL PRESSURE

DELTADYNE® SWITCHES
Pat. No. 2,942,572
Adjustable for signalling pressure and differential pressure from 0.25" wc to 200 psi (or psid) in systems to 5000 psi and −65° to +275°F; leak-proof. Units sound alarm, light bulb, turn motor on or off, operate valves—remotely or in place. **$40 to $75**

DELTADYNE INDICATORS
Adjustable and non-adjustable. Actuation 0.01 to 100 psi (or psid). For same pressure/temperature as switches. Red button pops to give visual indication of overpressure. **$22 to $85**



DELTADYNE GAUGES

For system pressures to 3000 psi; indication from 0 to 60 psi differential; leak-proof—no moving seals; high-visibility scale. **$92**

Extended pressure and temperature ranges available in all instruments.

NEW DESIGNS!

NEW ACCURACY!

OFF-THE-SHELF OR CUSTOM-ENGINEERED FOR

- Hydraulic/pneumatic systems (airborne, ground support, industrial)
- Process industries (chemical, petroleum, fuels)
- Equipment manufacturers (fluid handling)

Read or control tank levels, and pressure drops across filters, heat exchange orifices for flow metering, gas adsorbers and many other types of equipment. Learn more about the cost and service advantages of these units.

WRITE FOR COMPLETE LITERATURE

PALL

PALL CORPORATION • GLEN COVE, N. Y.

For more details circle NED-113 J1 on enclosed inquiry slip

2000 HOURS BONE DRY

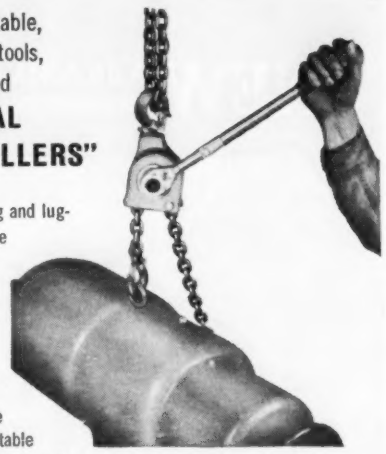
When asked how well our pumps would wear, we had this to tell. In one of the toughest pumping tests ever devised, a 2-inch Blackmer vane-type pump was driven at top speed for 2000 hours, running absolutely bone dry. Vane wear was detectable only with a micrometer! Even when vanes do show wear, they are inexpensively replaced. Aren't these good reasons why you should specify Blackmer pumps? Write for Bulletin One.

"liquid materials handling" equipment
BLACKMER / *rotary pumps*
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN
Find your Blackmer Man under "Pumps" in the Yellow Pages

For more details circle NED-114 J1 on enclosed inquiry slip

"We needed portable, all-around work tools, so we selected

PEERLESS PAL LEVER PULLERS"



"We do a lot of lifting and lugging in servicing the equipment around our plant, and we want to make it as safe and easy as we can for our maintenance men. That's why, when we were shopping for portable all-around work tools to help them, we chose Peerless Pal Lever Pullers."

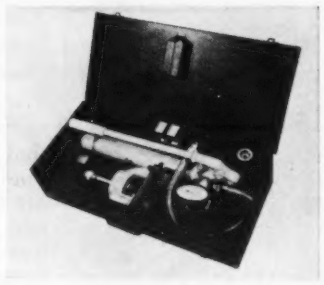
Peerless Pal Lever Pullers are excellent maintenance tools, but their usefulness doesn't stop in the shop. They are equally helpful on shipping and receiving platforms, on trucks and around the yard.

Normally rated ¼ and ½ ton, the capacities can be doubled by using a specially designed snatch block easily installed without tools. Write for complete information. Or contact your nearest Harrington-Peerless distributor.

THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

For more details circle NED-115 J1 on enclosed inquiry slip

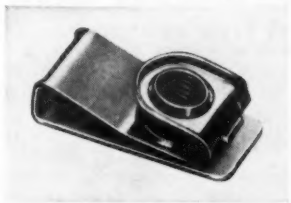
TUBE FITTING TOOL
presets ferrules on tubing



This Hy-fer-set tool sets ferrules on steel, stainless, or Monel tubing to assure pressure tight joints when installing up to 2-in. Ferulok tube fittings. Fully portable and actuated by a hand pump, this hydraulic tool is furnished with a full set of dies. • **Parker-Hannifin Corp.**, Parker Fittings & Hose Div., 17325 Euclid Ave., Cleveland 12, Ohio.

For more details circle NED-118 J1 on enclosed inquiry slip

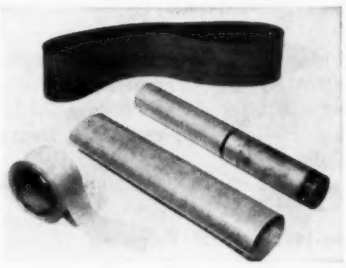
CLIP-ON FASTENER
snaps firmly into drilled hole



Substantial cost savings for such aircraft applications as attachment of flooring, sound proofing, and fairings are afforded by ESNA Type LHA4972 clip-on self-locking fastener. It can also be used for sheet metal or glass fiber assemblies as long as the 0.020-in. thickness of the clip can be tolerated between mating surfaces. A locating eyelet formed on the base plate snaps firmly into the drilled hole. Fastener is made from carbon steel in 10-32 size and with bolt holes located ⅜, ½, and ⅝ in. from edge. A single fastener accommodates sheet thicknesses from 0.020 to 0.160 in. • **Elastic Stop Nut Corp. of America**, 2330 Vauxhall Rd., Union, N. J.

For more details circle NED-119 J1 on enclosed inquiry slip

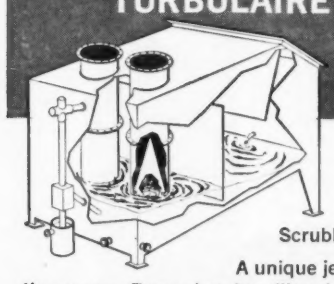
ENDLESS BELTS
of Teflon-impregnated glass fabric



Endless conveyor belts are now being made of Teflon impregnated glass fabric. The nonsticking and high temperature properties of this flexible material make it suitable for heat sealing. Belts are produced in widths to 49 in. and circumferences to 210 ft. For most applications, 10-mil cloth is satisfactory. In some cases, belts have been used as a facing for existing conveyors. In addition to belts, laminates, 36 x 36-in. tapes, and 38-in. wide cloth from 0.003 to 0.14 in. thick can be supplied. • **General Plastics Corp.**, 55 La France Ave., Bloomfield, N. J.

For more details circle NED-120 J1 on enclosed inquiry slip

Jet-scrubs gasses CLEAN ... with no moving parts
TURBULAIRE SCRUBBER



When scrubbing will clear your dust and fume problems — a WP Turbulaire Scrubber will do the job best.

A unique jet-action principle is the reason. Even when handling dust particles of sub-micron size, it has an unusually high efficiency. No moving parts; nothing to require frequent maintenance or replacement. Wide application flexibility; easily constructed from various types of corrosion-resistant materials.

WRITE FOR LITERATURE today to Western Precipitation, 1000 W. 9th St., Los Angeles 54, Calif. (In Canada, write 8285 Mountain Sights Ave., Montreal, P. Q.)

DUST AND FUME CONTROL SINCE 1907
WESTERN PRECIPITATION
DIVISION OF JOY MANUFACTURING COMPANY

For more details circle NED-116 J1 on enclosed inquiry slip

MODEL 29SL Flo-Truck
Selected hardwood decks, strong steel end racks.

FEATURES:
- ☆ Sound Engineering
- ☆ Good Running Gear
- ☆ Balanced Design
- ☆ Simple Field Repair
- ☆ Easily Customized
- ☆ Rugged Construction

Mobility is our business!
If you want to move your product efficiently, safely, at low cost use an IRONBOUND
FLOOR TRUCK

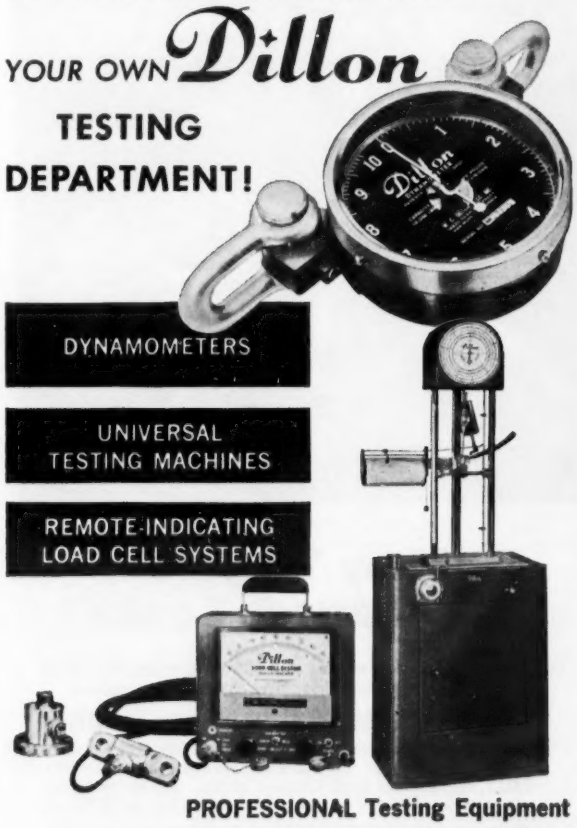
FOR ADDITIONAL INFORMATION OR ILLUSTRATED LITERATURE SEE OUR LOCAL REP. OR WRITE
IRONBOUND BOX & LUMBER CO.
750 Ramsey Ave. • Hillside, N. J.
or Telephone now
ESsex 3-3233

MODEL 48
All steel platform truck. Rubber or semi-steel wheels. Wide variety of sizes & types

Don't you need some trucks?
We move FAST *how about you?*

For more details circle NED-121 J1 on enclosed inquiry slip

GET *IMMEDIATE* ANSWERS WITH
YOUR OWN *Dillon* TESTING DEPARTMENT!



DYNAMOMETERS
UNIVERSAL TESTING MACHINES
REMOTE-INDICATING LOAD CELL SYSTEMS

PROFESSIONAL Testing Equipment Within Reach of the Average Shop Budget!

Your own *available* test department can be worth its weight in gold. In addition to getting *immediate* answers to your problems, you'll save outside fees...and costly employee waiting time.

Whatever your product, there's a Dillon instrument you can use to advantage. Tensile, compression, torque or shear ...1 pound to *1 million* pounds! Anyone can operate. Rugged and dependable. Guaranteed accuracy!

PLEASE BE SURE TO MENTION PRODUCT IN WHICH YOU ARE *SPECIFICALLY* INTERESTED. A COPY OF OUR *GENERAL* CATALOG ON *OTHER* DILLON PRODUCTS WILL BE INCLUDED.

128

TO MEASURE, WEIGH, TEST OR CONTROL – CALL ON DILLON ...PRECISION INSTRUMENTS FOR 3 DECADES!

W. C. *Dillon* & COMPANY, INC.
Dept. 119, 14578 Keswick Street, Van Nuys 79, California

For more details circle NED-122 J1 on enclosed inquiry slip

NEW

NICHOLSON HOLE SAWS
- superb Nicholson quality
- full line Carbon and High Speed Steel Shatterproof
- high speed steel pilot drills
- taper adaptors and mandrels included
- sold only through Hardware and Industrial Distributors

NICHOLSON
Nicholson File Company, Providence 1, Rhode Island • Files • Rotary Burs • Hacksaw and Band Saw Blades • Hole Saws • Ground Flat Stock • Industrial Hammers

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Transferring Heat?

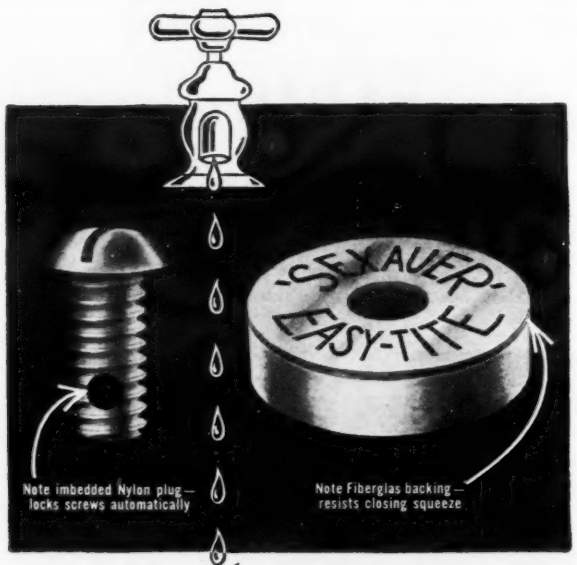
TRY WOLVERINE TRUFIN®

MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

WRITE FOR TRUFIN CATALOG

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. Q, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle **NED-123 J1** on enclosed inquiry slip



New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

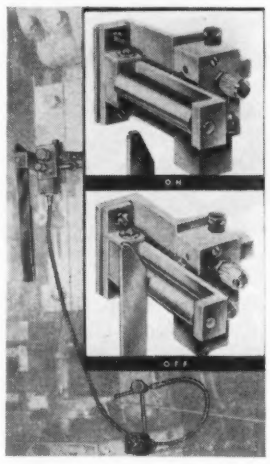
A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-91
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name_____ Title
Organization_____
Bus. Address_____
City_____ Zone_____ State_____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle **NED-124 J1** on enclosed inquiry slip

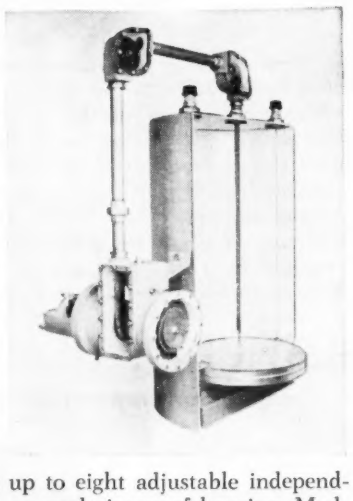
LUBRICATING DEVICE for punch press stock



Automatic application of lubricants to punch press stock is facilitated by the Mistic Mist Generator, a cam-actuated valve device that operates with shop air lines and pressures. Valves are located on front of press and controlled by its up and down stroke. Lubricant is directed through a precision nozzle to the press stock, prolonging cutting and forming efficiency of the die and improving stamping accuracy. Installation, including a magnetic nozzle holder with 60-lb pull, valves, 2-gal lubricant or coolant tank, and cam, is available for $55. • **Aetna Mfg. Co.**, 188 N. York Rd., Bensenville, Ill.

For more details circle **NED-125 J1** on enclosed inquiry slip

LIQUID TANK GAGE for tanks up to 24 ft high



Float operated Dir-O-Gage liquid level indicator with dials calibrated in feet, inches, and 1/8-in. increments can be installed on bolted or welded tanks up to 24 ft high. A Neg'ator spring motor built into the gage head provides the power to wind and unwind the tape as the float follows the liquid level. Unit is furnished with mounting hardware and is available with up to eight adjustable independent alarm switches in an explosionproof housing. Models are offered for 16 and 24-ft bolted tanks and 20 and 24-ft welded tanks. • **Instruments, Inc.**, Box 556, Tulsa, Okla.

For more details circle **NED-126 J1** on enclosed inquiry slip

Do-It-Yourself Framing

FREE Acme Steel Co., Fabricated Materials Div.—Unveiled in 24-page Guide Book AD-410 are ideas and applications for creative framing of storage racks, shipping containers, machine guards, guard rails, tables, platforms, and other structures of practically any size or shape using AIM Brand Slotted Angle. This prepunched angle framing is offered in kit form, complete with accessories, bolts, nuts, and assembly instructions.

For more details circle **NED-127 J1** on enclosed inquiry slip

Proper Pitch Assures Precise Performance!

Pre-Set to Eliminate Play

WESTERN WORM GEAR JACKS

6 Models
2 to 50 Tons Capacity

FOR ACCURATE POSITIONING OF LOADS WEIGHING SEVERAL HUNDRED TONS—Built for performance: use singly, in tandem or in multiple jacking arrangements. Working surfaces properly lubricated to reduce friction! The full line is neat, closely-coupled, with compact drive. Has large velocity of power change, fewer moving parts. Properly designed to assure high shock load capacity. Safe, easy maintenance; smooth, quiet operation with Timken tapered roller bearings; Alemite grease fittings.

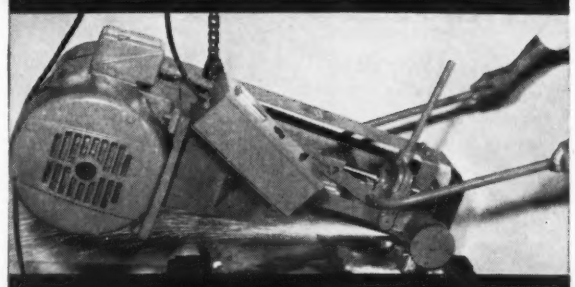
Standard raise is six inches. Raises to 24 inches available on request.

Write for complete information

WESTERN INDUSTRIES INC.
Industrial Products Division
2702 West 36th Place • Chicago 32, Illinois

For more details circle **NED-128 J1** on enclosed inquiry slip

NEW ABRASIVE BELT SWING FRAME GRINDER



CURTIS MODEL PB-A

Adaptable to a wide variety of operations in large or small plants. can be used as a portable unit and brought to heavy work, or rigidly mounted for many grinding and polishing operations. 10 or 7½ hp. motor, heavy-duty contact wheel design, center post tracking mechanism, automatic belt tensioning, precision roller bearings. For additional information, write to: Curtis Machine Division, The Carborundum Company, Niagara Falls, New York.

CARBORUNDUM

For more details circle **NED-129 J1** on enclosed inquiry slip

Sta-Warm ELECTRICALLY HEATED TEFLON LINED HOSE

Temperature Controlled to 400° F.

Sta-Warm electrically heated synthetic rubber hose showing power supply and connections.

DESIGNED FOR CONVEYING OF EPOXIES, PLASTICS, HOT OILS, WAXES, PARAFFIN, ASPHALTS, POTTING AND SIMILAR COMPOUNDS WITHOUT HEAT LOSS

Sta-Warm engineers and builds a complete line of flexible, electrically heated hoses for use with heated melting tanks. Rubber and all-metallic braided also available.

WANT A CATALOG? WRITE TODAY.

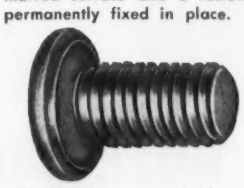
Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
A Subsidiary of Wakefield Corporation

For more details circle **NED-130 J1** on enclosed inquiry slip

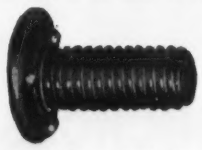
OHIO WELD SCREWS

GW SCREWS — Used where design requires a smooth unmarred surface and a fastener permanently fixed in place.

HH SCREWS — Used where a single, button-type projection is required when welding to curved surfaces, to heavy sheet 3/32" or thicker, or to ends of rods.



RW SCREWS — Used where a hermetic seal is required to prevent leakage of air, gas, water, oil or dust, or when welding to perforated metal or wires.



HW SCREWS — Used where a self-locating through bolt is required to be fixed securely in place so that it will not turn and a flush surface is required for attaching mating parts.

Thread Size #6-32 to ⅜-16
Samples and information available upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST AVENUE, BEREA, OHIO

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R/M CAPABILITY PRODUCES

VALVE STEM PACKINGS

for temperatures to 1150°F

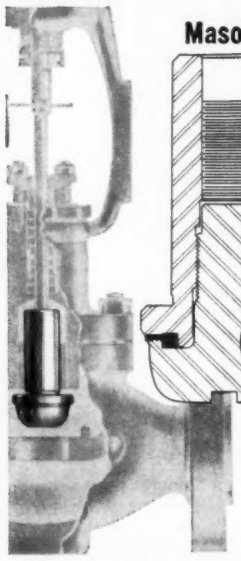
Use R/M No. 325 for service on lines handling superheated steam, hot gases and oils. This R/M High Temperature Valve Stem Packing embodies all these features:

- AAA grade Inconel-wire-inserted asbestos yarns braided over a plastic core
- A core which contains pure, long-fiber asbestos, graphite and other ingredients
- Free of all organic materials that tend to carbonize at high temperatures
- Little volume loss and little adjustment
- Contains inhibitors which combat corrosion after hydrostatic testing and during storage and help give long service life

For detailed information about R/M High Temperature Valve Stem Packings, write for our new Mechanical Packings and Gasket Materials Catalog.

RAYBESTOS-MANHATTAN, INC.
R/M PACKINGS
PACKING DIVISION, PASSAIC, N.J.
MECHANICAL PACKINGS AND GASKET MATERIALS

For more details circle NED-132 J1 on enclosed inquiry slip



Mason-Neilan 20,000 Series

New Soft-Seat Design FOR TIGHT SHUT-OFF

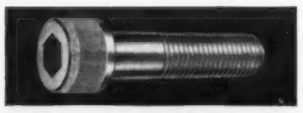
Masoneilan high capacity Single-Seated Control Valves now provide soft seat tightness — without sacrifice of percentage characteristics. Permits static pressures and pressure drops to 500 psi. Soft seat inserts available in Buna-N, Teflon and Glass-filled Teflon to meet varying conditions. Soft seat plugs available in sizes from 1" to 10". See your Mason-Neilan representative or write direct.

Products that Work for Your Profit

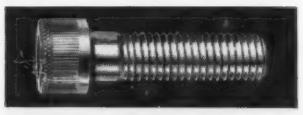
MASON-NEILAN
Division of Worthington Corporation
69 Nahatan St., Norwood, Massachusetts

For more details circle NED-133 J1 on enclosed inquiry slip

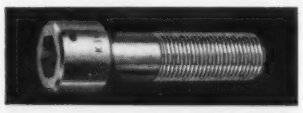
Performance...selection...UNBRAKO!



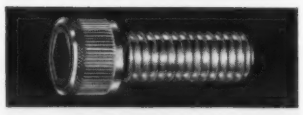
UNBRAKO pHd* with Hi-Life Thread gives up to 2⅓ times the holding power, twice the fatigue strength of ordinary socket head caps.



Stainless UNBRAKOs meet your needs for corrosion-resistant fastening from —300° to 800°F.



UNBRAKO K 16 replaces costly specials by providing 300% more fatigue life than regular screws.



UNBRAKO KS 812—the only stainless socket head with a guaranteed 125,000 psi *minimum* tensile.

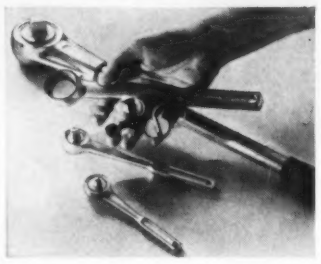
*proper Head design (1960 Series)

All are *standard* fasteners, available *now* to help you save time, up reliability, avoid specials. See your SPS distributor or write Standard Pressed Steel Co. for latest literature.

INDUSTRIAL FASTENER Division **SPS**
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-134 J1 on enclosed inquiry slip

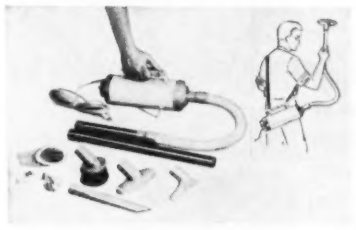
RATCHET WRENCHES
rubber plugs replace springs



Only seven parts in this line of ratchet wrenches take the place of 12 to 18 components in conventional types. A small long-life oil-resistant neoprene rubber plug in the ratchet replaces the normal spring. The ratchet is so simple that it can be field stripped with a pocket knife and is easily reassembled. Wrenches are made in ¼, ⅜, ½, and ¾-in. square drive models. Use of a hollow alloy steel handle in the largest size assures lightness in weight. • **Crescent Tool Co.**, 200 Harrison St., Jamestown, N. Y.

For more details circle NED-135 J1 on enclosed inquiry slip

HAND VACUUM CLEANER
removes dust from lab or test tables



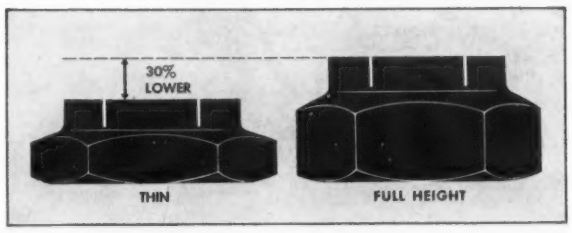
Carried by a shoulder strap, this lightweight industrial hand vacuum cleaner is usable for picking up dust around test facilities, lab benches, assembly tables, and instrument and tool areas. The heavy-duty unit operates at high speed and has a disposable bag. It may also be used for valuable-materials recovery. Price is $24.95. • **Troy Industries Inc.**, Industrial Vacuum Cleaner Div., 135 Marbledale Rd., Tuckahoe, N. Y.

For more details circle NED-136 J1 on enclosed inquiry slip

ADHESIVE TACKS
for affixing variety of materials

Gum Tacks afford a quick, clean method for affixing paper, plastic, glass, fabric, and foil together. User removes a single Gum Tack from the automatic dispenser carton and presses it down on any dry, clean surface. When the "tack" is lifted up, a small round dot of pressure-sensitive adhesive remains for affixing any of the above mentioned materials. Among the many uses for Gum Tacks are sealing of packages, mounting photographs, placing objects on bulletin boards, and sticking sheets of paper to each other. Dispenser retails for 49 cents. • **Avery Label Co.**, 1616 S. California Ave., Monrovia, Calif.

For more details circle NED-137 J1 on enclosed inquiry slip



FLEXLOC thin nuts save weight, space, production time

- 30% lighter than full-height locknuts
- Lock with shorter bolts; fit where ordinary locknuts won't; allow more compact joints
- Speed production—fewer turns needed to seat
- Provide high reliability—every thread carries full share of tensile load
- Simplify design, specification, inventory—1-piece fasteners
- Can be repeatedly reused
- Sizes #6 to 1½ in.

See your SPS distributor or write direct for Bulletin 866.

INDUSTRIAL FASTENER Division **SPS**
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-138 J1 on enclosed inquiry slip

HAMILTON PORTELVATOR®

THE HANDY HAMILTON PORTABLE ELEVATING TABLE

If you think that the various makes of elevating tables are "all-pretty-much-alike", that a device so simple allows scant room for *important* points of superiority, then, without fail, you must have a copy of our new, FREE Portelvator Bulletin No. P/2968. Ask for it by name. Ask for it today!

THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

For more details circle NED-139 J1 on enclosed inquiry slip

LOAD and UNLOAD

BOXES • BAGS • BALES • CARTONS

IN 1/2 THE TIME

with this expanding **CONVEYOR**

CSI-*Farquhar's* EXPAND-O-VEYOR

- BUILT-IN STRETCH
- HIGHLY VERSATILE
- HIGH SPEED
- EASY TO MOVE
- HANDLE ALL KINDS OF PACKAGES

Looking for a new way to speed loading and unloading? Here is a complete, *portable* conveyor system that helps you load trucks in ½ the time...no more slow and costly setup...just move in the EXPAND-O-VEYOR and go to work... links right into existing facilities. Investigate this higher efficiency now!

SINCE 1856
CSI Farquhar CONVEYORS
CONVEYOR SYSTEMS, INC.
A-B FARQUHAR DIVISION
Phone: JUniper 8-0200
6465 Main Street Morton Grove, Illinois (Chicago Suburb)

ASK FOR BROCHURE
Full of details on sizes, power, capacity, construction and applications. SEND TODAY!

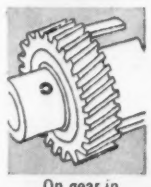
See Your Yellow Pages For Your CSI-Farquhar Dealer or Write Direct

For more details circle NED-140 J1 on enclosed inquiry slip

Use it for positioning... SEL-LOK spring pin

On food mixer

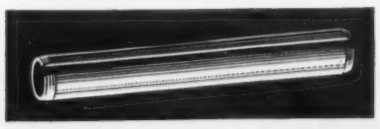
On hacksaw



On gear in assembly

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

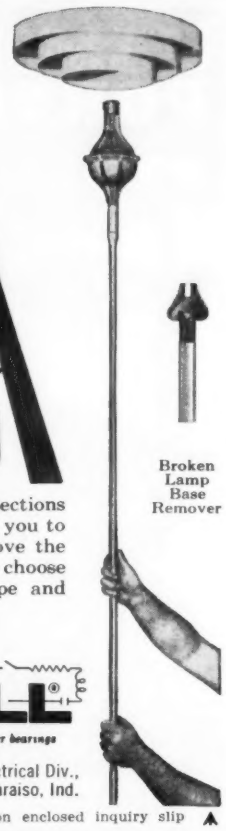
SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 4 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your SPS distributor or write for Bulletin 2670.



INDUSTRIAL FASTENER Division **SPS**
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-141 J1 on enclosed inquiry slip

DON'T CLIMB ! change bulbs safely - quickly



A light weight steel pole in 5′ sections that lock securely in place enables you to change bulbs easily up to 20′ above the floor. There are 9 different heads to choose from for virtually any size, shape and type of bulb. *Fully insulated!*

Available from Electrical Wholesalers.

Write for McGill Electrical Specialties Catalog No. 84

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

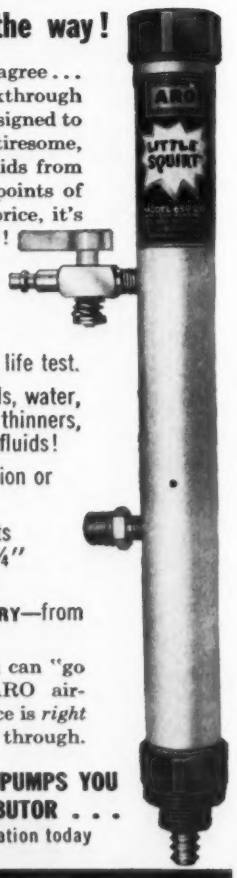
▲ For more details circle **NED-148 J1** on enclosed inquiry slip ▲

NOW an AIR-POWERED PUMP ... at a Hand Pump Price!

ARO "Little Squirt"

... and ARO quality all the way!

Once you see it pumping, you'll agree ... the ARO *Little Squirt* is a breakthrough in liquid materials handling! Designed to eliminate forever time-wasting, tiresome, inefficient hand pumping of fluids from drums to other containers or points of use. And, while it's "little" in price, it's *big* in features and performance!



- **HIGH VOLUME**—up to 7 gals. min. free flow. Handles fluids up to 90 weight gear oil easily.
- **DEPENDABLE**—6 million cycles in life test.
- **VERSATILE**—handles oils, gear oils, water, kerosene, gasoline, anti-freeze, thinners, solvents and other non-corrosive fluids!
- **SAFE** — air-operated; no explosion or spark hazards!
- **UNIVERSAL BUNG MOUNT** — fits either standard ¾″ bung inlet, 1¼″ inlet, and with adaptor, 2″ inlet.
- **INFINITELY ADJUSTABLE DELIVERY**—from zero to full flow!

Why pump by hand when you can "go automatic" with the new ARO air-powered Little Squirt? The price is *right* and the quality is ARO clear through.

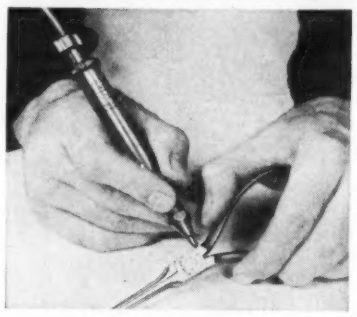
GET THE ARO "LITTLE SQUIRT" PUMPS YOU NEED FROM YOUR ARO DISTRIBUTOR . . .
or write to us for complete information today

ARO® THE ARO EQUIPMENT CORPORATION
Industrial Division • Bryan, Ohio

Aro Equipment of California, 3141 S. Grand Ave., Los Angeles 7; Aro of Canada, Ltd., Rexdale (Toronto) Ontario. Offices in Principal Cities

▲ For more details circle **NED-149 J1** on enclosed inquiry slip ▲

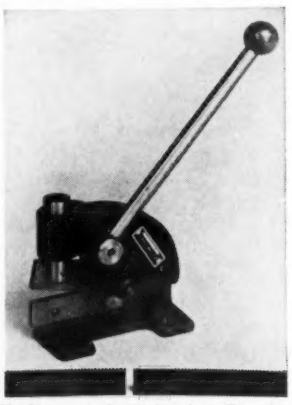
AIR-POWERED WRITING TOOL
marks on metal, plastic, glass



Delivering 12,000 controlled blows per minute, the Utica UA - 300 Power Writer will indelibly mark all materials such as metal, glass, plastic, and ceramic. Its air motor operates on 40 to 100-psi air. The 5¼ - oz, 5 3/16-in. long tool is easy to handle and will write, mark, or print on the hardest materials with lines as fine as 1/32 in. The carbide stylus can be resharpened or replaced. Depth of marks is controlled by the throttle. • **Kelsey-Hayes Co.**, 3600 Military Ave., Detroit 32, Mich.

▲ For more details circle **NED-150 J1** on enclosed inquiry slip ▲

BANDSAW SHEAR
easy-to-use bench tool



Bandsaws ranging in width up to 2 in. are readily cut by the replaceable tool steel blades of this bench shear. Square cuts facilitate joining of blade ends. Shear is also usable for general purpose metal cutting and as a throatless shear. Price is $45. • **Stryco Mfg. Co.**, 470 Natoma St., San Francisco 3, Calif.

▲ For more details circle **NED-151 J1** on enclosed inquiry slip ▲

PLASTIC PIPE T-FITTINGS
molded in up to 8-in. sizes

Injection molded of unplasticized polyvinyl chloride, tees for plastic pipe are now available in up to 8-in. size, latter for pressures to 75 psi. Piping is particularly suited for handling corrosive materials in chemical processing, paper making, mining, and other industries. Eight - inch saddles are also available. • **Tube Turns Plastics, Inc.**, 2929 Magazine St., Louisville 11, Ky.

▲ For more details circle **NED-152 J1** on enclosed inquiry slip ▲

Tempilstik° temperature indicating crayons*

*Also Tempil° Pellets and Tempilaq° (liquid form)

Tempilstik°—a simple and accurate means of determining preheating and stress relieving temperatures in welding operations. Widely used in all heat treating—as well as in hundreds of other heat-dependent processes in industry. Available in 80 different temperature ratings from 113°F to 2500°F . . . $2.00 each.

Send for free sample Tempil° Pellets. State temperature desired . . . Sorry, no sample Tempilstiks°.

Most industrial and welding supply houses carry Tempilstiks° . . . If yours does not, write for information to:

ADVERTISING DIVISION

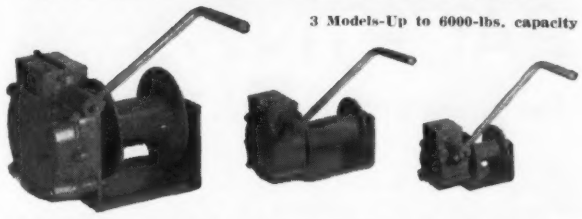
Tempil° CORPORATION
132 West 22nd St., New York 11, N. Y.

Visit us at Booth 928 • 1961 Show
Cobo Hall, Detroit, Michigan • October 23-27

▲ For more details circle **NED-153 J1** on enclosed inquiry slip ▲

Announcing New Thern "AUTO LOCK"* WORM GEAR WINCHES

3 Models-Up to 6000-lbs. capacity



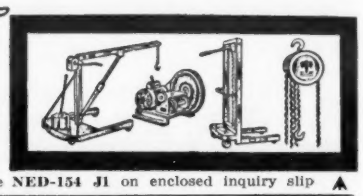
Exceptional quietness and ease of operation are built-in features of these compact worm gear winches. Gears are fully enclosed . . . protected from dirt, moisture and excessive wear. Gear case can be filled with oil or grease.

*Automatically self-holding (AUTO LOCK) in any position. Recommended for raising-lowering, opening-closing, or pulling applications where loads remain suspended—such as lighting fixtures, skylights, bleachers, heavy doors, dumb waiters, boat lifts and many other indoor and outdoor needs.

High strength heat treated machine cut gears; one-piece cast iron drums, adjustable steel handles. Available in three models—1500 lb., 2500 lb., and 6000 lb. For vertical or horizontal mounting.

Write for FREE catalog listing specifications.

Thern MACHINE COMPANY
3800 4th Street
Winona, Minnesota



▲ For more details circle **NED-154 J1** on enclosed inquiry slip ▲

A HYTROL System can make real Cents for YOU!

LOOK AT IT EITHER WAY — Hytrol Conveyors offer common sense solutions to your materials handling problems . . . save you extra cents with every load moved. Portable or permanent models and complete systems. Quality-built for top efficiency and long, dependable service. Authorized dealers in all principal cities.

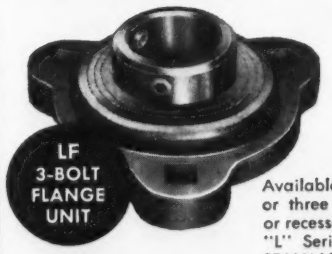
Write for the FREE HYTROL Full Line Catalog

HYTROL CONVEYOR COMPANY
BELT ROLLER WHEEL
1965 S. 54th St. • Phone EV 3-5211
MILWAUKEE 19, WISCONSIN

▲ For more details circle **NED-155 J1** on enclosed inquiry slip ▲

SEALMASTER® "L" SERIES

A HIGH QUALITY LINE OF MALLEABLE HOUSED BEARING UNITS AND BEARINGS AT A COST THAT IS WARRANTED ON YOUR MACHINE!



- SELF-ALIGNING
- ONE-PIECE MALLEABLE HOUSING
- PERMANENTLY SEALED
- EASY RACE TO SHAFT LOCK

Available in pillow blocks and two or three bolt flange units for flush or recessed mountings. All units in the "L" Series available with the new SEALMASTER contact type seal.

LP PILLOW BLOCK LFT FLANGE UNIT LF FLANGE UNIT

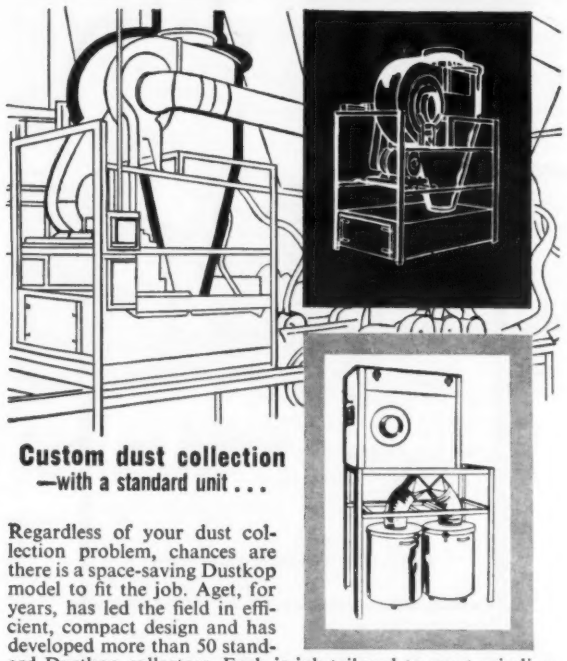
WRITE FOR BULLETIN 359.

SEALMASTER BEARINGS
A DIVISION OF
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS

Plants Located in: Los Angeles, Calif. Clarksdale, Miss • Belleville, Ontario

SEALMASTER® BALL BEARING UNITS

▲ For more details circle **NED-156 J1** on enclosed inquiry slip ▲



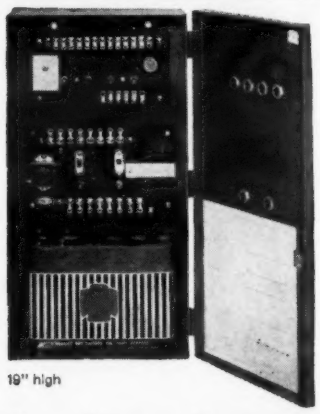
Custom dust collection —with a standard unit . . .

Regardless of your dust collection problem, chances are there is a space-saving Dustkop model to fit the job. Aget, for years, has led the field in efficient, compact design and has developed more than 50 standard Dustkop collectors. Each is job-tailored to most grinding, buffing or finishing operations—as well as many other types of service. Write for illustrated brochure that helps select your tailored Dustkop unit.

Also a complete line of mist collectors

AGET MANUFACTURING COMPANY 1396 EAST CHURCH ST., ADRIAN, MICHIGAN DUSTKOP Stops Dust

For more details circle NED-157 J1 on enclosed inquiry slip



19" high

NEW! Fire Alarm Control Cabinet

Kidde's new compact automatic fire alarm combination panel monitors four circuits with local alarm. A one-circuit cabinet is also available with or without the 4-zone annunciator. Self-restoring detectors and noncode break-glass stations can be used. The unit provides for two vibrating bell circuit terminals.

U.L.-approved, the new Kidde unit draws power from any 120 volt AC source and converts it to 6 volts DC for operation. In case of power failure, a trouble alarm sounds, and the entire system automatically transfers to self-contained battery operation. For more information, write to Kidde.

Kidde

Kidde Ultrasonic & Detection Alarms Division
924 Brighton Road, Clifton, N. J.
Walter Kidde & Company, Inc.

For more details circle NED-158 J1 on enclosed inquiry slip

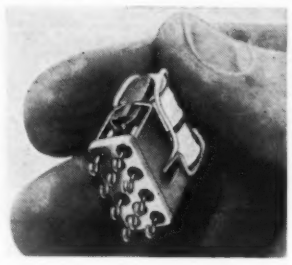
BUILT TO TAKE IT! Republic Steel Lockers

Heavy duty construction, 5-step Bonderized for greatest resistance to rust, nicks, and bangs. Secure, too. Tamper-proof handle and your choice of popular locking devices. Ask your Republic distributor to survey your locker needs . . . no obligation, and he'll assume full responsibility for installing the lockers you choose. For literature, write . . .

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-159 J1 on enclosed inquiry slip

SUBMINIATURE RELAY
magnetic latching type



Two-coil model of the LF subminiature magnetic latching relay provides complete control of the latching operation within the relay itself, making possible simplified circuitry in a small space. Similar one-coil model may be used with existing circuits where outside control is provided. Mounting dimensions are identical. Respective sensitivities are 75 and 150 milliwatts per coil on the one and two-coil versions. Operation times are 8 and 5 milliseconds at 25° C. Wet circuit contact load life at 28 v dc resistive is 100,000 operations at 3 amp and 1 million operations at 1 amp. Dry circuit contact load life is 1 million operations with a 1-mv open circuit, 1-microampere closed circuit, 100-ohm contact resistance limit. Price range is $8 to $15. • C. P. Clare & Co., 3101 Pratt Blvd., Chicago 45, Ill.

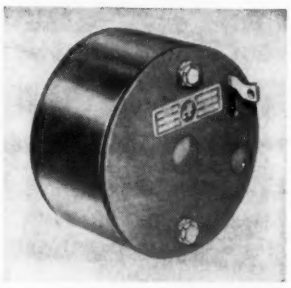
For more details circle NED-160 J1 on enclosed inquiry slip

LAMINATED TITANIUM SHIMS
light weight, have high strength

Multiple layers of 0.003-in. thick titanium are plastic bonded to each other, or layers can be bonded to thicker sheets of titanium in this line of custom made laminated shims. They afford weight saving over conventional shim materials, have high tensile strength, and are peelable to desired thickness. • Laminated Shim Co., Glenbrook, Conn.

For more details circle NED-161 J1 on enclosed inquiry slip

COMPACT MOTOR BRAKE
fits on standard motor frames



Offered for direct shaft attachment on NEMA frame 56C, 66C, 182C, and 184C motors, L-60 Universal brakes develop 1½ and 3 lb-ft torque. The standard NEMA length shaft extension is used for hub mounting, with a knockout plug for through-shaft use. Cover is removable without need for extra space in mounting the brake on new or installed motors. Brake is electrically released and spring set. In case of power failure, it holds the load until power is restored. An external release trip permits remote operation. • Dings Brakes, Inc., 4758 W. Electric Ave., Milwaukee 46, Wis.

For more details circle NED-162 J1 on enclosed inquiry slip

Sulphur dioxide atmosphere eats away I-beam while "DEKORON®-COATED" E.M.T. remains unharmed.

Republic ELECTRUNITE® "DEKORON-COATED" E.M.T. resists corrosive atmospheres

Every length of "DEKORON-COATED" Electrical Metallic Tubing is coated with a tough polyethylene shield for highest resistance to fumes, gases, steam, and other corrosive conditions. Couplings and fittings can also be protected with plastic tape for end to end corrosion protection of the entire raceway system. Send for complete information.

REPUBLIC STEEL
STEEL AND TUBES DIVISION
233 East 131st St. • Cleveland 8, Ohio

For more details circle NED-163 J1 on enclosed inquiry slip

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

For more details circle NED-164 J1 on enclosed inquiry slip

The Self Reliant Rotating Joint

The Rotary Union automatically maintains unvarying efficiency wherever gases or liquids are used to heat or cool revolving equipment. It is self-adjusting to variations in line pressure and self-aligning to stress and strain . . . never requires mechanical maintenance of any kind and outlasts any other rotating joint.

The Rotary Union is available in over 40 standard types and sizes in ¼" through 5" pipe sizes. Ask for Bulletin 700 for complete information.

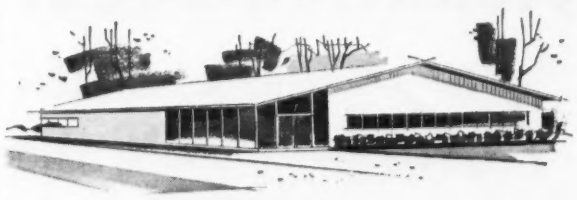
*Trade Name—Patented

"WHERE Good Connections COUNT"®

PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.

Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Montreal—Toronto

For more details circle NED-165 J1 on enclosed inquiry slip



before you build or expand get the low prices on our new TRUSSPAN *Steel Building*

Choose TRUSSPAN and you can build as fancy or as plain, as big or as little, as high or as low, as long or as short, as wide as you want to.

Choose TRUSSPAN and you can build a storage shed or a de luxe office at lowest *in-place* cost. Check the cost and your choice will be TRUSSPAN. Call your TRUSSPAN Dealer-Contractor or Truscon Representative for more detailed information.

REPUBLIC STEEL
TRUSCON DIVISION
Youngstown 1, Ohio

For more details circle NED-166 J1 on enclosed inquiry slip

AIR PRESS with Built-in ELECTRIC VALVE

Basic arbor stand has ram clearance of 6", throat 5". Base plate is 6" x 9", ground flat on both sides. Arbor stand will take any one of three sizes of Bellows Air Motors, 1¼", 1¾" or 2½" bore. Built-in electric valve with adjustable stroke.

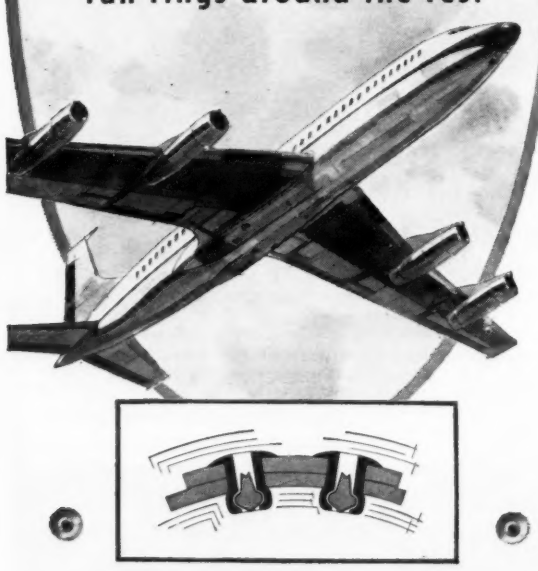
Write for Bulletin MS5-RA
Address:
Dept. NED -961
Bellows-Valvair
Akron 9, Ohio

995-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-167 J1 on enclosed inquiry slip

ONE OF THE
ONE DOZEN REASONS WHY
UNITED "POP"® RIVETS
run rings around the rest

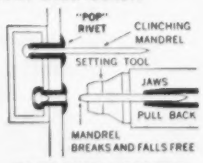


VIBRATION-PROOF

Exerting up to 600 pounds of "squeeze" between parts, "POP" Rivets will not loosen or shake out, even under severe vibration. No lock washers or other extra parts requiring extra handling are needed; setting is fast, easy and economical. Fastening strength and quality are uniformly high, independent of operator's strength or skill. Installed costs are far lower than other fastening methods. To improve the quality, appearance and performance of your product and reduce costs at the same time, be sure to investigate all of the reasons why Genuine "POP" Rivets run rings around the rest. Write today for complete information and for the name of your local "POP" Rivet Distributor.

HERE'S HOW THEY WORK

"POP" Rivets are inserted and set from the same side: (1) Rivet is inserted in the work. (2) Jaws of the easy-to-use setting tool grasp the mandrel. (3) Tool is operated. Jaws pull back. Rivet is set. Mandrel breaks and falls free.



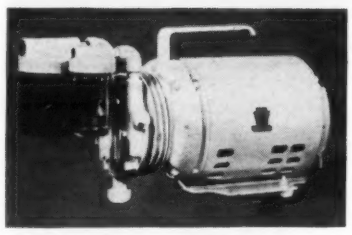
UNITED "POP" RIVETS

FASTENER DIVISION
United Shoe Machinery Corp.
1928 River Road
SHELTON, CONNECTICUT
U.S.A.

Genuine "POP" Rivets Are Available Through a Large Network of Distributors Throughout the Country.

For more details circle NED-168 J1 on enclosed inquiry slip

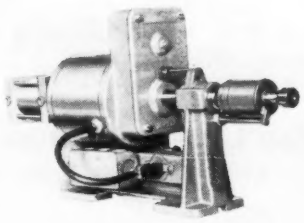
PORTABLE VACUUM PUMP capable of 27 in. Hg vacuum



Portable, 25-lb sliding vane vacuum pump, capable of 27 in. Hg vacuum, will move up to 1.5 cfm of air with entrained liquids. It has an open dripproof, 1/6-hp, 115-v motor and is enclosed in a gray iron housing with carrying handle. A variety of special voltages and enclosures are available, depending upon requirements. Lubricators are optional. • **Frederic B. Stevens, Inc.,** Clark-Cooper Div., Palmyra, N. J.

For more details circle NED-169 J1 on enclosed inquiry slip

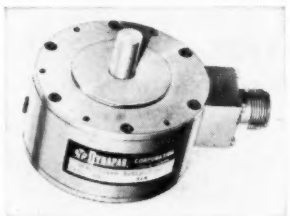
SMALL AUTOMATIC TAPPER taps No. 4-40 through No. 10 holes



Model 114 small automatic tapping unit is compact enough for building into special machines. Unit has an electric motor-driven spindle with air cylinder for the feed. Reversing attachment is used with the single direction motor. Free axial motion allows tap to follow its own lead, and adjustable torque control prevents tap breakage. Tap speeds range from 750 to 3000 rpm in seven steps. Pressure regulator controls feed. • **Electro Mechano Co.,** 241 E. Erie St., Milwaukee 2, Wis.

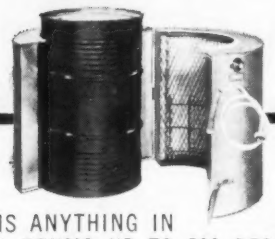
For more details circle NED-170 J1 on enclosed inquiry slip

DIGITAL SENSING DEVICES for measurement, automation control



Mechanical motion is converted into digital voltage pulses by Rotopulser sensing devices which supply pulses for numerical readout of measurement and actuation of any desired automatic control function in batching or continuous process operations. Shaft of the zero speed type rotates a precision ruled disc which interrupts a built-in light source to feed pulses. Second type is magnetic and utilizes a rotor with individual teeth to represent any desired unit of measurement. Pulses are fed directly as teeth rotate through a magnetic field. The rotary transducers are used with preset counters, controllers, tachometers, totalizers, rate indicators, and other readout and control devices. Measurements of length down to 0.001 in. or speed measurements down to 0.001 rpm are provided. • **The Louis Allis Co.,** 427 E. Stewart St., Milwaukee 1, Wis.

For more details circle NED-171 J1 on enclosed inquiry slip

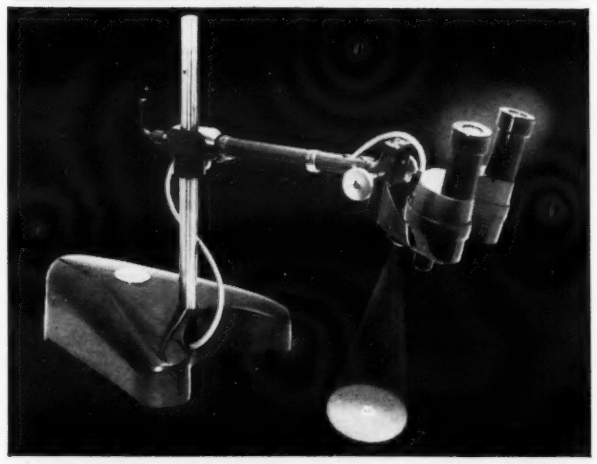


WARMS ANYTHING IN METAL DRUMS UP TO 500 DEGREES

PALMER Automatic Drum Warmers for all drum sizes—1 gal. to 55 gal.—for any voltage in any process up to 500 degrees F.—*NO HOT SPOTS*—Complete automatic control—Horizontal or Vertical. Write or phone for literature or prices.

HAROLD L. Palmer COMPANY
28619-25 GRAND RIVER AVE., FARMINGTON, MICH. • GREENLEAF 4-4350

For more details circle NED-173 J1 on enclosed inquiry slip



STERIMAG

Crystal sharp stereoscopic image
Built-in focusable light source
Long 7" working distance — wide field
Stable base with universally adjustable mounting
Fixed magnification 10X and 20X models each **$165**

COOKE, TROUGHTON & SIMMS INCORPORATED
91 WAITE STREET, MALDEN 48, MASSACHUSETTS
IN CANADA: 77 GRENVILLE STREET, TORONTO

For more details circle NED-174 J1 on enclosed inquiry slip

How to Get the Right Cable and Assembly for Any Job

BERGEN WIRE ROPE CO.
LODI, NEW JERSEY

I am interested in:

☐ BERGEN WIRE ROPE for _____ (application)

☐ BERGEN CABLE ASSEMBLIES with swaged terminals that maintain full rated strength of the cable for _____ (application)

REMARKS: _____

I would like to receive Bergen literature as follows:

☐ GENERAL CATALOG
☐ BERGEN SPECIFIED WIRE ROPE FOR AUTOMOTIVE USE
☐ BERGEN SPECIFIED WIRE ROPE FOR CONSTRUCTION CONTRACTING, INDUSTRIAL
☐ BERGEN SPECIFIED WIRE ROPE FOR QUARRYING
☐ BERGEN AIRCRAFT CABLE AND ASSEMBLIES
☐ BERGEN MARINE CABLE

If you want to talk to a Bergen representative, check here ☐

NAME _____ COMPANY _____
ADDRESS _____ CITY _____ STATE _____

BERGEN WIRE ROPE CO.
502 GREGG ST., LODI, N. J. • HUbbard 7-3521

BERGEN FINDS THE ANSWER

For more details circle NED-172 J1 on enclosed inquiry slip

Alcoa Alloy 6262-T9*

■ Higher yield strength than alloys 2011, 2017 and 2024 ■ Better corrosion resistance than alloys 2011, 2017 and 2024 ■ Better machinability and higher strength than alloy 6061

See your nearest Alcoa distributor or jobber—he carries a full line of Alcoa® Screw Machine Stock alloys for every application.

*Patent applied for

ALCOA ALUMINUM
SCREW MACHINE STOCK

For more details circle NED-175 J1 on enclosed inquiry slip

Alcoa Aluminum Fasteners

■ Any type; any size; made from high-strength, heat-treated alloys ■ Assemble easily, never seize or bind, because of precision threading and rigid inspection

Your local Alcoa distributor or jobber stocks huge inventory—can make quick delivery. Check your Yellow Pages under "Aluminum."

ALCOA ALUMINUM
FASTENERS

For more details circle NED-176 J1 on enclosed inquiry slip

Alcoa Aluminum Abrasive Tread Plate

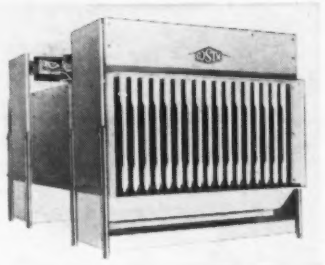
■ Wear uncovers additional abrasive particles—actually *renews* the surface ■ Slip-proof on wet, oily or greasy floors ■ Light weight—installs easier, faster ■ Corrosion resistant—never needs maintenance

Call your local Alcoa distributor.

ALCOA ALUMINUM
ABRASIVE TREAD PLATE

For more details circle NED-177 J1 on enclosed inquiry slip

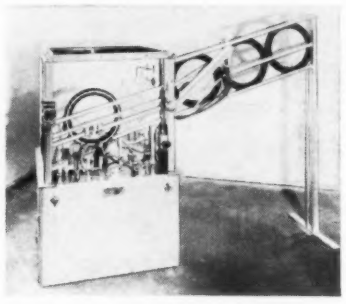
DUCT GAS FURNACES
in 50,000 to 300,000-Btu sizes



Furnished in sizes from 50,000 to 300,000 Btu, Kisco duct gas furnaces are used singly or in multiples for many space heating applications. Units can be suspended or base mounted, and air flow through heater is in either direction. They are A.G.A. approved and completely assembled, wired, and tested. A limit control, safety pilot, manual shutoff valve, 115-v electric valve, and pressure regulator (omitted for LP-gas) are provided. A 24-v valve is also available. ● **Kisco Boiler & Engineering Co.**, 2400 DeKalb St., St. Louis 4, Mo.

For more details circle NED-178 J1 on enclosed inquiry slip

AUTOMATIC PAINT SPRAYER
finishes both sides of round parts

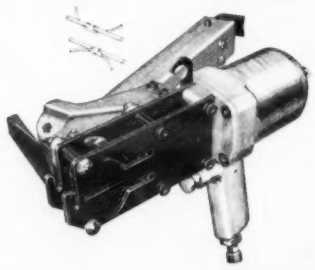


Without the use of masks or tape, this automatic spray machine simultaneously paints a stripe on both sides of round parts which can be rotated during finishing. Typical application is the painting of side walls of vehicle tires. Machine adjusts quickly for various part diameters, and an automatic positioner accommodates variables in the parts. It has modular construction, measures 56 x 38 x 38 in., and provides for chute loading and automatic unload. Skip spray device paints only when part is in position. ● **Conforming Matrix Corp.**, 771 New York Ave., Toledo 11, Ohio.

For more details circle NED-179 J1 on enclosed inquiry slip

AIR-POWERED CLIPPING TOOL
fastens clip on coil springs, wires

Touch of the trigger on the Model M clipper wraps a Paslode border clip tightly around two or more wires in a fraction of a second. The heavy-duty air-powered unit fastens 2, 3, or 4-gage border wire to speed furniture and other product assembly. Clipper weighs only 6¾ lb, and takes only a few seconds to reload. It is a larger successor to Models S and B clippers which apply clips for 6-11 gage and 11-13 gage wires, respectively. ● **Paslode Co.**, 5860 Northwest Highway, Chicago 31, Ill.



For more details circle NED-180 J1 on enclosed inquiry slip

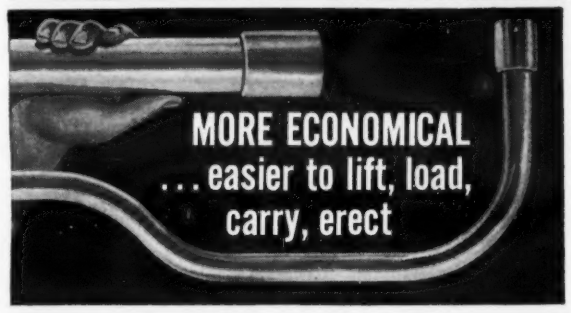
Alcoa Aluminum Joining Materials

■ Welding—IG (Inert Gas) Welding Electrode, Coiled Welding Rod, Straight-Length Welding Rod, Welding Flux ■ Brazing—Sheet, Coiled Brazing Rod, Straight-Length Brazing Rods, Brazing Flux ■ Soldering—Sheet, Solder, Solder Flux

Alcoa distributors and jobbers can give you information on joining aluminum. Additional technical assistance can be obtained from your nearest Alcoa sales office.

ALCOA ALUMINUM
WELDING MATERIALS

For more details circle NED-181 J1 on enclosed inquiry slip



Alcoa Aluminum Electrical Rigid Conduit*

■ Light weight—weighs only ⅓ as much as steel conduit ■ Easy to cut, bend and thread—without special tools ■ Corrosion resistant—no maintenance under normal service conditions ■ Nonsparking for safer installations ■ Competitive in price for initial savings as well as future savings

Available from local distributor or jobber stocks for fast, dependable delivery.

*Approved by Underwriters' Laboratories, Inc.

ALCOA
ROME CABLE
DIVISION

For more details circle NED-182 J1 on enclosed inquiry slip

Quick delivery of any Alcoa Aluminum product on this page from your local Alcoa distributor or jobber!

- Prompt Service
- Fully Stocked Warehouses
- Complete Technical Information

Check Your Yellow Pages
Under "Aluminum"
OR
Mail Coupon for Additional Information

ALUMINUM COMPANY OF AMERICA
859-J Alcoa Building, Pittsburgh 19, Pa.

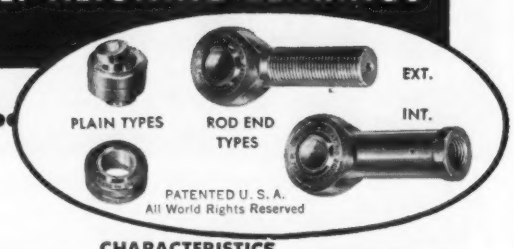
Please send me the following:

- ☐ ALCOA ALLOY 6262-T9 SCREW MACHINE STOCK FOLDER
- ☐ ALCOA ALUMINUM FASTENERS BROCHURE AND SAMPLES
- ☐ ALCOA ALUMINUM ABRASIVE TREAD PLATE BROCHURE AND SAMPLE
- ☐ ALCOA ALUMINUM ELECTRICAL RIGID CONDUIT BROCHURE
- ☐ ALCOA WELDING AND BRAZING METAL SELECTION CHART
- ☐ "HOW TO DESIGN WELDED ALUMINUM STRUCTURES"

Name _____
Title _____
Company _____
Street Address _____
City _____ Zone _____ State _____

ALCOA ALUMINUM
Distributed Nationally... To Better Serve Your Immediate Needs

SOUTHWEST
"Monoball"®
SELF-ALIGNING BEARINGS



CHARACTERISTICS

	ANALYSIS	RECOMMENDED USE
1	Stainless Steel Ball and Race	For types operating under high temperature (800-1200 degrees F.).
2	Chrome Alloy Steel Ball and Race	For types operating under high radial ultimate loads (3000-893,000 lbs.).
3	Bronze Race and Chrome Steel Ball	For types operating under normal loads with minimum friction requirements.
4	"Dyflon"® Plastic Alloy Inserts. CRES Ball and Race. Chrome Alloy Steels.	For types operating under rotational, high radial loads and long cycle life where lubrication is impossible.

Thousands in use. Backed by years of service life. Wide variety of Plain Types in bore sizes 3/16" to 6" Dia. Our engineers welcome an opportunity of studying individual requirements and prescribing a type or types which will serve under your demanding conditions. Southwest can design special types to fit individual specifications. Write for Engineering Manual No. 551. Address Dept. NED-61

SOUTHWEST PRODUCTS CO.
1705 SO. MOUNTAIN AVE., MONROVIA, CALIFORNIA

For more details circle NED-184 J1 on enclosed inquiry slip

NEW...from RCA
The best designed
AIR GAGE
ever offered!

No other air gage on the market can match the ease and compactness with which these RCA units can be grouped into multiple systems . . . expanded at will at minimum cost. Their attractive functional design with this built-in expansion feature is certain to be a welcome innovation to all users of such equipment.

Compare These Outstanding Features!

- Four ranges of adjustable magnification are provided with 10" linear scales.
- Tube is spring-loaded with positive seal to provide for simple change.
- Captive float cannot drop out when tube is removed.
- Spare tubes and scales can be stored internally in the column.
- Modular design permits flexibility in grouping units in minimum space.
- Complete range of tooling is available for gage use.

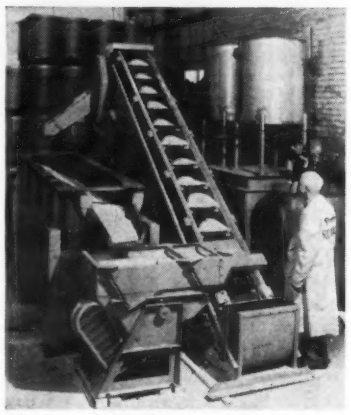
RCA offers these Air Gages as single or multiple units for bench type operation or as components of automatic systems. A complete range of tooling is also available for all types of measurements normally performed with this equipment.

Before you buy Air Gaging, Check RCA. Write to RCA, Industrial Controls, Dept. Z-329, 12605 Arnold Avenue, Detroit, Mich., or see your RCA Representative.

RCA The Most Trusted Name in Electronics
RADIO CORPORATION OF AMERICA

For more details circle NED-185 J1 on enclosed inquiry slip

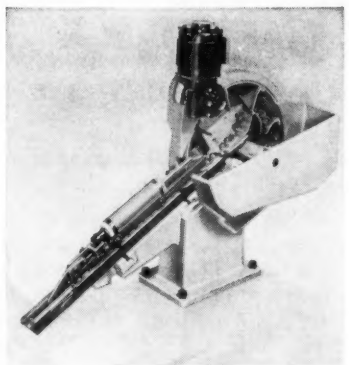
VIBRATORY FINISHERS
for continuous production finishing



Metal, plastic, or ceramic parts to be cleaned, descaled, deburred, radiused, ground, fine-finished, or burnished can be fed or conveyed automatically into these automatic continuous process vibratory gyrators. Machines utilize air-cushion suspension and can be arranged for continuous conveyance of fixtured large and heavy parts. Elongated work containers are adaptable to batch type processing of very long parts. Media are automatically cleaned, screened, and recirculated, and compound and water are added automatically. A range of machine sizes is offered. • **Pangborn Corp.**, Pangborn Boulevard, Hagerstown, Md.

For more details circle NED-186 J1 on enclosed inquiry slip

SMALL PARTS FEEDERS
track adjust for headed parts



Horizontal axis drum gives Model FE-101 small parts feeder a 6-in. width and storage capacity of 150 cu in. Model FE-104 is 10 in. wide and holds 700 cu in. Feeders have a divided track that is adjustable in width, and which can be furnished for use with headed parts. Neoprene vanes within the drums provide gentle handling of the parts. Smaller model is equipped with a Model ES-9 air-operated escapement, but other types can be used. It can be motor driven as illustrated, or the drum can be actuated by the escapement. Larger feeder is motor driven. • **Dixon Automatic Tool, Inc.**, 2300 23rd Ave., Rockford, Ill.

For more details circle NED-187 J1 on enclosed inquiry slip

CORRECTION

In the description of the Scherr-Tumico 12-in. Vernier Caliper (NED-515, Aug. '61) it was incorrectly stated that this precision instrument was imported. It is American Made. This easily read $68 precision instrument is available with either English scale with 0.001-in. increments or with Metric scale graduated to 0.02 mm. • **Scherr-Tumico, Inc.**, 301 Armstrong Blvd. N., St. James, Minn.

For more details circle NED-188 J1 on enclosed inquiry slip

MOLYKOTE® M-88
BONDED LUBRICANT COATING

FREE SAMPLE!

Handy Applicator Bottle • Enough Lubricant to coat parts for evaluation • Absolutely FREE! • New industrial lubricating technique • Simply apply like a paint • Allow to air dry • Provides 100% safety against galling and seizing • Smooth, protective lubricating film bonds to most surfaces • Lifetime lubrication in many applications • Mail the coupon today.

THE ALPHA-MOLYKOTE CORP.
65 HARVARD AVENUE • STAMFORD, CONN.

The Alpha-Molykote Corp., 65 Harvard Ave., Stamford, Conn.
Please send me a FREE SAMPLE of MOLYKOTE M-88. NED-9
Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-189 J1 on enclosed inquiry slip

45 LEVER TYPE models to choose from!

SINGLE ACTING, RATCHET LOWERING
11 Models, 5 to 20 tons capacity. Full capacity on toe or cap.

EMERGENCY & BRIDGE JACKS
2 Models, 15 tons capacity. Pivot on base.

THE WORLD'S MOST COMPLETE LINE!

SIMPLEX LEVER JACKS

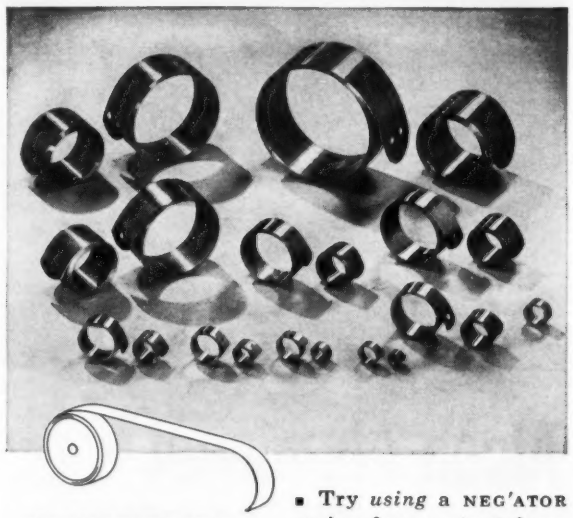
ALSO: Pole pulling jacks, cable reel jacks, pipe pushers & pullers, wire tensioning, trench & timber jacks.

GEARED JACKS
3 Models, 25 to 35 tons capacity. Side toe lift.

TRACK (TRIP) JACKS
13 Models (Five aluminum alloy) Single and double acting.

Write for Mechanical Jacks Catalog
TEMPLETON, KENLY & CO.
2565 Gardner Road
Broadview, Illinois

For more details circle NED-190 J1 on enclosed inquiry slip



NEG'ATOR® SPRINGS FROM STOCK

• Try *using* a NEG'ATOR spring for constant-force over long extension. Hunter now stocks twenty-one sizes for quick delivery. Order by "kits" or select your own. We will rush *Bulletin A310X* on request.

HUNTER Springs in Spring
HUNTER SPRING COMPANY
A Division of American Machine and Metals, Inc.
14 Spring Avenue, Lansdale, Pennsylvania
Phone: ULysses 5-6815 TWX: 982-U

For more details circle NED-191 J1 on enclosed inquiry slip

NEW PRINCIPLE IN TORQUE CONTROL LOWERS ASSEMBLY COSTS

Rotor announces J-42T torque control air impact wrench with new hydraulic amplifier

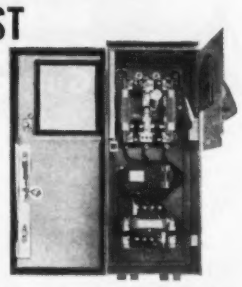
● **NEW** unique hydraulic amplifier shuts off tool at desired torque. This exclusive device results in...● **FASTER** rundown and impacting speed. Cuts job time. ● **MORE ACCURATE** torque control with uniform results. Quick, easy adjustment ...tamperproof. ● **ASK FOR DEMONSTRATION** of the J-42T to see how this outstanding development can cut costs on your assembly line. Write The Rotor Tool Co., 26343 Lakeland Blvd., Cleveland 32, Ohio. Subsidiary of The Cooper-Bessemer Corp.

ROTOR TOOLS

For more details circle NED-192 J1 on enclosed inquiry slip

New General Electric combination safety starter . . .

PROTECTS AGAINST UNAUTHORIZED ENTRY



Unique door mechanism helps prevent unauthorized entry that could cause danger to operating personnel. Door opening procedure is simple, but requires two steps and the use of a screwdriver. Once door is opened, inspection or voltage checks can be performed while disconnect switch is in ON position. If switch is OFF, it cannot be turned ON again while either door is open unless a defeater mechanism is operated. Keyhole and two-slot mounting simplifies installation. Starter meets JIC standards for NEMA 12 enclosures, is priced no higher than conventional JIC combination starters.

FREE PUBLICATION

Ask your G-E representative for publication GEA-7321, or write to Section 813-39, General Electric Co., Schenectady 5, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

▲ For more details circle **NED-193 J1** on enclosed inquiry slip ▲

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Cleveland

INDI-AC, Jr.

TRANSISTORIZED INDICATOR

OPERATES ANYWHERE
Portable — 4½ lbs. — 6" x 7" x 3½"
AC and permanent, chargeable, battery operated.
Unaffected by shop conditions.

NO MAINTENANCE PROBLEMS
Exclusive PROTECTOR TIP*
No battery replacement
Long life transistors
No mechanical parts to wear

USE FOR ANY GAGING PURPOSE
3 scales—thousandths-tenths-millionths. Zeros and readings coincide on all scales. Reversible action gage head—Light Tip Pressure.

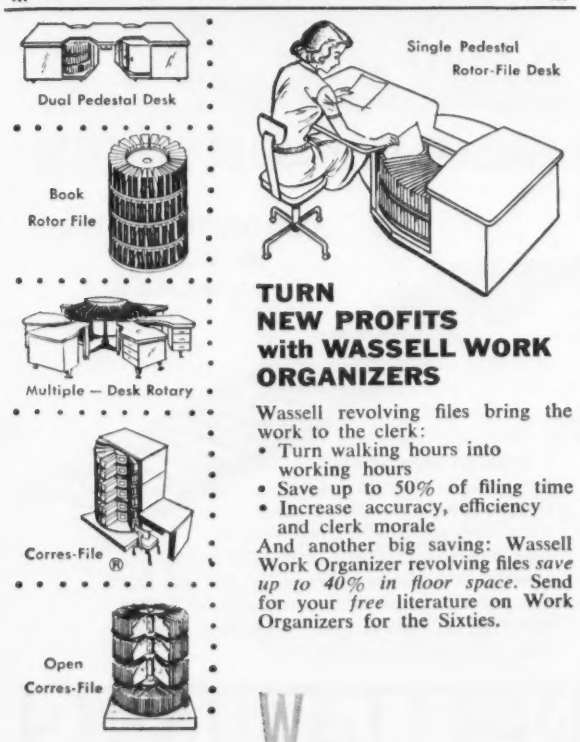
DIMENSIONAL-SURFACE FINISH ROUNDNESS GAGES

**Patented Applied For.*

Ask for a demonstration and see why CLEVELAND Gages give you more.

Cleveland INSTRUMENT CO.
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 E. Schaaf Rd. • Cleveland 31, Ohio
ELECTRONIC Gaging Equipment • Control Systems • Contract Services

▲ For more details circle **NED-194 J1** on enclosed inquiry slip ▲



TURN NEW PROFITS with WASSELL WORK ORGANIZERS

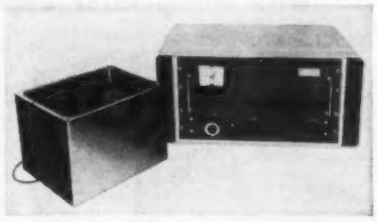
Wassell revolving files bring the work to the clerk:
- Turn walking hours into working hours
- Save up to 50% of filing time
- Increase accuracy, efficiency and clerk morale

And another big saving: Wassell Work Organizer revolving files *save up to 40% in floor space.* Send for your *free* literature on Work Organizers for the Sixties.

WASSELL ORGANIZATION INC.
WESTPORT, CONNECTICUT

▲ For more details circle **NED-195 J1** on enclosed inquiry slip ▲

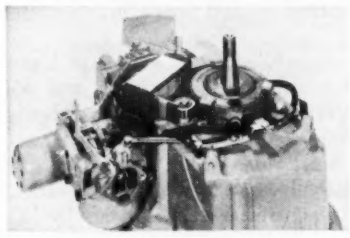
ULTRASONIC DEBURRING UNIT will not damage delicate parts



Minute but troublesome metal micro-burrs are removed from machined surfaces without damaging delicate parts or disturbing close tolerances by Model UG 500/UT 25s ultrasonic system. Parts are immersed in a liquid medium containing an abrasive in suspension. The transducerized 2½-gal stainless steel tank is driven at 55 kc by the 500-w output generator. • **Ultrasonic Systems, Inc.**, 2255 S. Carmelina Ave., Los Angeles 64, Calif.

▲ For more details circle **NED-196 J1** on enclosed inquiry slip ▲

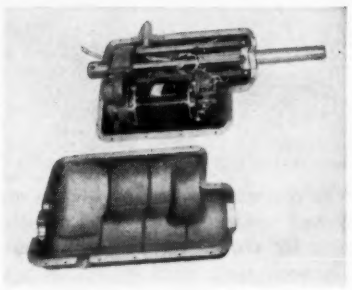
3.5-HP ENGINE features piezoelectric ignition



Piezoelectric ignition system eliminates breaker points, coil, condenser, and magneto on this Dynaspark 3.5-hp, vertical shaft engine, designed for use on riding lawnmowers, generators, pumps, paint sprayers, snow plows, and yard tractors. The small, compact engine is shell-molded of Clintalloy, a nickel and chrome impregnated cast iron. It is easy to start, has increased muffler life due to low exhaust temperature, and is simple to maintain. Spark plugs have an average life of 600 hr. • **Clinton Engines Corp.**, Clinton, Mich.

▲ For more details circle **NED-197 J1** on enclosed inquiry slip ▲

LINEAR ACTUATOR stroke adjustable from 0 to 6 in.



Positioning accuracy repeatable to within ±0.0025 in. without feedback is a feature of the Model C402 heavy duty linear actuator. It has a rated thrust of 500 lb tension and compression and a maximum thrust of 1000 lb. Stroke is continuously adjustable from 0 to 6 in. and an optional potentiometer indicates position. Capacitor start-and-run and a reversible single-phase motor with integral brake are built in. The industrial unit is entirely enclosed, and all ball bearings are lifetime lubricated. • **Lear, Inc.**, Electro-Mechanical Div., 110 Ionia Ave. N. W., Grand Rapids 2, Mich.

▲ For more details circle **NED-198 J1** on enclosed inquiry slip ▲

ANOTHER WASSELL PRODUCT

HOW TO KNOW IT ALL

Versatile Produc-Trol can give immediate and complete information on almost every phase of production. No recourse to files is needed; with Produc-Trol all the factors of efficient production are scheduled before your eyes — you have the right answer every time.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

▲ For more details circle **NED-199 J1** on enclosed inquiry slip ▲

Valuable FREE BROCHURE

Whether you require the close tolerance needed in a satellite—or the economical production necessary for a 10c toy . . . DUDEK & BOCK is your most dependable source for springs, wire forms and stampings. Years of know-how *quality control* guarantee you top performance at lower cost.

Phone* DICKENS 2-1020 *for estimates and delivery dates

DUDEK & BOCK
SPRING MANUFACTURING CO.
4014 W. GRAND AVE. • CHICAGO 51, ILL.

▲ For more details circle **NED-200 J1** on enclosed inquiry slip ▲

NEW METZGAR POWER TURNTABLE

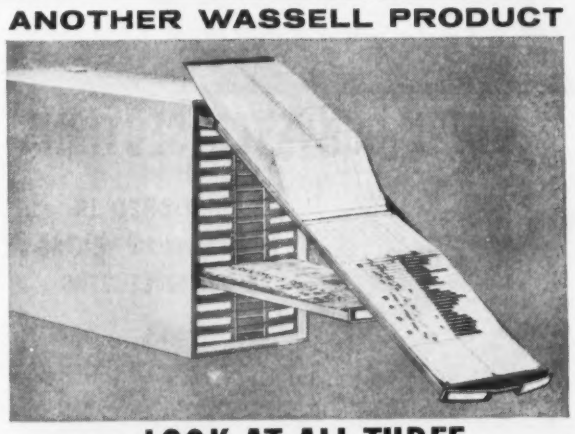
• Motor-driven, circular steel table rides noiselessly on bed of Metzgar Nylo wheels • Can be equipped with single or multiple entry and departure points for any turn or turns up to 180° • Steel guide rails to maintain alignment • Costs much less than power belt or live roller installation effecting same degree of turn • Standard table diameter 48" — smaller or larger models to your specs.

SEE YOUR METZGAR REPRESENTATIVE OR WRITE FOR FULL DETAILS

METZGAR CONVEYOR CO.
416 Douglas St. N.W., Grand Rapids 4, Mich.
WHEEL & ROLLER GRAVITY CONVEYORS • LIVE ROLLER CONVEYORS
POWER BELT CONVEYORS • SWITCHES • ACCESSORIES

▲ For more details circle **NED-201 J1** on enclosed inquiry slip ▲

ANOTHER WASSELL PRODUCT



LOOK AT ALL THREE

You'll find these exclusive advantages in Wassell Visible Sig-Na-Lok:
- Superior accuracy because signals lock in place — won't cause mistakes.
- Quicker alphabetical changes — because pockets **snap** out, **snap** in.
- Longer pocket life because pockets are bound full width — never tear.

Wassell Visible Sig-Na-Lok streamlines your records on inventories, maintenance schedules, personnel.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

▲ For more details circle **NED-202 J1** on enclosed inquiry slip ▲

The Alemite Industrial Fittings Catalog

HAS THE RIGHT FITTING FOR EVERY APPLICATION

Send for your FREE fully illustrated catalog, Form #38-23

Dependable lubrication fittings for every industry . . . for every need. Look to Alemite – originator of pressure lubrication – for the right fitting.

Specialized fittings to meet your exact requirements can be made by Alemite.

Dept. GG-91
1850 W. Diversey Pkwy.
Chicago 14, Illinois

Symbol of SW Excellence
ALEMITE DIVISION
STEWART-WARNER CORPORATION

For more details circle NED-203 J1 on enclosed inquiry slip

A Stockroom You Can Build Yourself!

SECTIONAL STACKBINS® give you the greatest flexibility and ease of installation ever devised for parts, tools, materials storage containers. You can set them up in minutes without tools! By combining bin sizes and number and size of openings, you get a storage system tailored to fit your particular needs. SECTIONAL STACKBINS give you maximum storage utility in minimum space. Available in 6 interstacking sizes.

For full information and prices, WRITE TODAY!

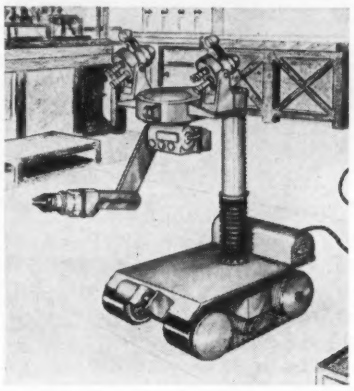
STACKBIN CORPORATION
1081 Main Street, Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Perth

STACKBIN® SYSTEM "Stacked and Still Accessible"

For more details circle NED-204 J1 on enclosed inquiry slip

MOBILE REMOTE HANDLER

vehicle has mechanical arm and mast with manipulator capacity of 50 lb



Light weight, mobility, and precise control are combined in the Little Ranger mobile remote handling system. It can move through restricted openings and can work in confined areas, performing various tasks at floor or overhead levels. Operating speed range is from 8 to 100 fpm. Vehicle has a telescoping mast, Model 150 mechanical arm, and associated cable-linked control system. Optional equipment includes a remotely controlled hoist-winch, dual television cameras, and space microphone or intercom system.

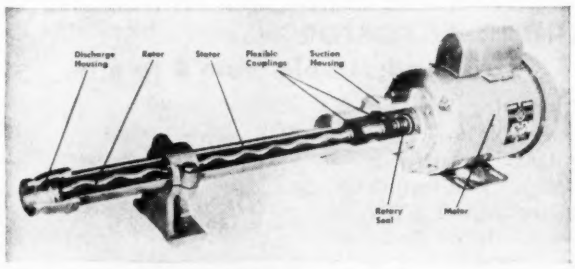
Electro-mechanically controlled from a remote location, the vehicle is 24 in. wide, 30 in. long, and 45 in. high (retracted). Vertical reach is 96 in. and horizontal reach is a 41.5-in. radius. Manipulator handles 50-lb loads, and hoist and winch capacities are 100 and 500 lb, respectively. • **General Mills, Inc.,** Electronics Group, 1620 Central Ave., Minneapolis 13, Minn.

For more details circle NED-206 J1 on enclosed inquiry slip

PRESSURE-SUCTION PUMP

for difficult-to-handle liquids

Rotating helical rotor within a helically grooved stator enables the SRM pump to handle virtually any liquid from cutting oil to peanut butter. It has application



where contaminated or highly viscous liquids must be moved under pressure. Pumping action of the self-priming pump starts and stops almost instantaneously. Thirteen sizes with capacities up to 26 gpm and discharge pressures up to 350 psi are offered. Auxiliary fittings at both ends allow suction from several sources and/or delivery to several lines at differing controlled pressures. An integral motor, matched to the pump size, is rated from 1/3 to 2 hp as required. Larger models with capacities to 50 gpm and driven by external motors are also available. • **Associated Engineers, Inc.,** Box 1628, Springfield, Mass.

For more details circle NED-207 J1 on enclosed inquiry slip

...with ACROFLEX, the pliable notched steel strapping

You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

Get more facts FREE

Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-890.

Territories available for qualified representatives.

ACRO METAL STAMPING COMPANY
1901 North Buffum, Milwaukee, Wis.

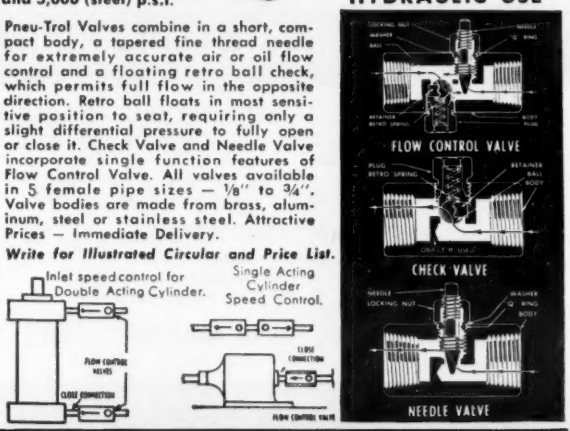
For more details circle NED-209 J1 on enclosed inquiry slip

Get Easier, More Accurate Cylinder Speed Control with Pneu-Trol® VALVES IN AIR OR HYDRAULIC USE

2,000 (brass or aluminum) and 5,000 (steel) p.s.i.

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Check Valve and Needle Valve incorporate single function features of Flow Control Valve. All valves available in 5 female pipe sizes — 1/8" to 3/4". Valve bodies are made from brass, aluminum, steel or stainless steel. Attractive Prices — Immediate Delivery.

Write for Illustrated Circular and Price List.



AUTOMATION AUTO PONENTS INC COMPONENTS
2929 GRANT STREET
BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle NED-210 J1 on enclosed inquiry slip

AUTO-Glide

WHEEL CONVEYER SECTIONS

FURNISHED IN 12", 18" and 22" WIDTHS 5' and 10' LENGTHS

• Available with either steel or aluminum construction. Sections are rigidly crossbraced and fitted with Universal or Hook-type couplings. Choice of 10 or 12 wheels per foot in 12" width standard sections . . . 12, 16 or 20 wheels per foot in 18" width; 16, 20, 24, 28 in 24" width. Zinc coated steel or aluminum wheels. Frames are 2-1/2" formed channel. For further information write for Catalog MSP-G1-61 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

For more details circle NED-205 J1 on enclosed inquiry slip

AUTO-Glide

PORTABLE BELT CONVEYERS

PROVIDE LOW-COST TROUBLE-FREE PORTABLE PACKAGE HANDLING

MODEL WC-100

• Available in suitable sizes and capacities for loading and unloading. Model WC-100 employs spring-loaded raise and lower mechanism for instant adjustment. Constructed of rigid, welded tubular steel. Roller chain drive assures positive flow of boxes, bags, cartons, cases or crates as high as 30- degree incline. For further information write for Bulletin PB 860 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

For more details circle NED-208 J1 on enclosed inquiry slip

AUTO-Glide

STANDARD DUTY ROLLER CONVEYERS

CONSTRUCTED OF STEEL OR ALUMINUM

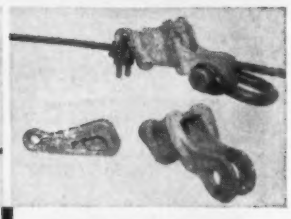
AVAILABLE IN 5 FT. OR 10 FT. SECTION LENGTHS

• Rollers are equipped with high-quality ball bearings and are available in various lengths and spacing to meet any handling requirement. Rigid, formed channel frame construction employs Universal or Hook-type couplings for fast and easy assembly. For further information write for Catalog MSP-G1-61 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

For more details circle NED-211 J1 on enclosed inquiry slip

WIRE ROPE FITTINGS



OPEN WEDGE SOCKETS

the harder the pull the tighter the hold

OPEN WEDGE SOCKETS—especially easy to attach. Simply bend cable around wedge, insert in socket and pull tight. Wedge can be quickly removed with light hammer and drift pin. Sizes for ⅜" to 2" rope. Orders for special sizes receive prompt attention.

CONTINUOUS CABLE CLAMPS

the easy way to attach a load to a line

CONTINUOUS CABLE CLAMPS—Quickly attach or remove a load from any place on a continuous cable. Used for car pulling, barge moving, rigging or any job where a load must be connected to the line.

Manufactured for rope sizes from ⅜ to 1¼ inches.

ASK FOR BULLETINS 164 AND CC-2

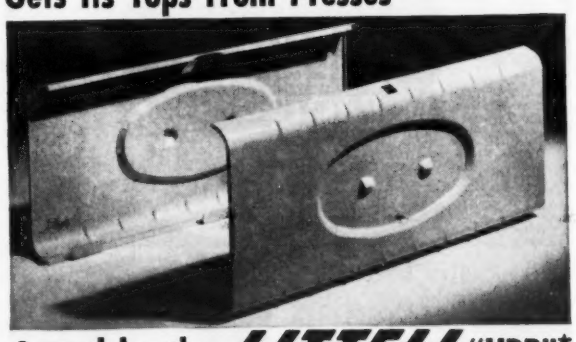
SAUERMAN BROS., Inc.

646 S. 28th AVENUE, BELLWOOD, ILLINOIS • LInden 4-4892

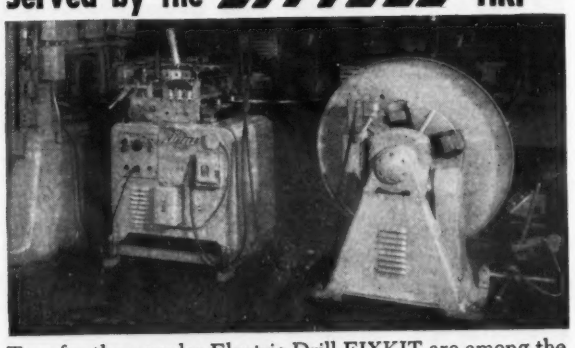
▲ For more details circle NED-212 J1 on enclosed inquiry slip ▲

FIXKIT by *Black & Decker*

Gets Its Tops From Presses



Served by the *LITTELL* "HRP"★



Tops for the popular Electric Drill FIXKIT are among the many precision stampings produced in Black & Decker press rooms with the mobile Littell HRP straightening and feeding the stock. The feeding and straightening cycle of the self-powered, hydraulically driven HRP unit is synchronized with the stamping cycle of any standard press by a single electrical connection. Coil curvature is removed and the straightened stock is fed to the die area in perfect timing with the press stroke. The HRP feeds from either side of the press, from front to back, or from special angles to produce specially shaped parts. It "stays put" at one position or can be easily moved to another press.

★ Hydraulic Rack & Pinion Straightener-Feed

COILY Says . . .

"HRP can give you the same accurate straightening-feeding action and easy-to-move convenience that pays off at Black & Decker. That is a Littell Reel in the above picture, too."

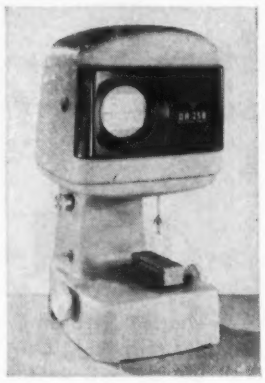
Write for these Bulletins— Bulletin B-10 for HRP Straightener-Feeds Series "D" Bulletins for Littell Reels

F. J. LITTELL MACHINE CO.

4169 Ravenswood Ave., Chicago 13, Ill.

▲ For more details circle NED-213 J1 on enclosed inquiry slip ▲

OPTICAL GAGE
accurate to 0.000025 in.



Parts on which a number of dimensions must be checked are gaged directly without gage blocks or master setups by the DR-25B optical gage. Use within a 50 to 90° F range requires no temperature compensation. Instrument is accurate to 0.000025 in., provides absolute measurements to tenths for routine production, and has a 0 to 3-in. range. Its precision ruled scale is not subject to error from wear. An anvil adapter which will accept any standard anvil or special fixture is furnished with the 60-lb, 21¼ x 11¾ x 10¾-in. gage. A 3.5-in. diameter circular serrated anvil and a 4 x 6-in. rectangular serrated anvil are optional, as is a foot control switch. A standard spindle tip is supplied, but any AGD tip can be accommodated. All components are protected against dirt, moisture, and vibration. Price is $875. ● **Bausch & Lomb Inc.**, 635 St. Paul St., Rochester 2, N. Y.

▲ For more details circle NED-214 J1 on enclosed inquiry slip ▲

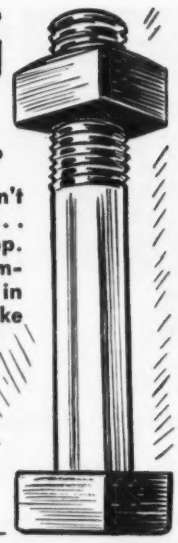
AUTOMATIC WELDING SYSTEM
weld conditions programmed on tape are indicated by lighted buttons

Precision welding applications requiring a variety of different welding energy and electrode force settings can be set up on and performed by the PAWS-1 automatic welding system. Suited for reliable high production welding of micro-miniature component modules, fine wire, complex vacuum tube assemblies, and other precision equipment, the system is an integrated mobile work station.

Up to ten predetermined weld conditions may be tape program or manually sequenced to meet application requirements. Operator merely inserts the parts and actuates the head. Lighted control buttons indicate the selected weld condition while the exact process sequence number appears. Welding energy is adjustable up to 80 w-sec and electrode force is adjustable from 4 oz to 15 lb. Operation of the system is on 115 v, 50-60 cycles ac. ● **Unitek Corp.**, Weldmatic Div., 950 Royal Oaks Dr., Monrovia, Calif.

▲ For more details circle NED-215 J1 on enclosed inquiry slip ▲

BIGGEST THING in YOUR SHOP...



When some rusty bolt or shaft won't let go and it is tying up production . . . it can be the biggest thing in your shop. That is when Kano Kroil, the new chemical loosener, is worth its weight in gold. As one customer put it, "It's like an extra employee."

. . . "Five men, total weight of 825 pounds, using levers and sledges, struggled for an hour with a frozen shaft. No luck. So all went out for a smoke. One man, weighing 140 pounds used Kroil and by the time we returned, had lifted the shaft out with no leverage."

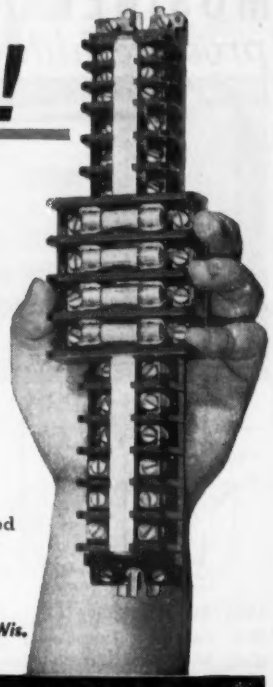
You Too Can Get This Result

Try Kroil at our risk. If it doesn't do more than you expect, return it and the charge will be cancelled. Get the Kroiler combination, one gallon of Kroil (regular price $4.35) and Kroiler squirt gun for $5.25 f.o.b. factory. Order direct.

KANO LABS. 1074 Thompson Lane Nashville 11, Tenn.

▲ For more details circle NED-216 J1 on enclosed inquiry slip ▲

More Flexible!



SQUARE D *FUSIBLE* TERMINAL BLOCKS

- INCREASED FLEXIBILITY... individual fusible blocks combine with four different types of terminals on a single channel.
- Rated 30 amp., 600 volts
- Accepts any ferrule-type fuse 13/32" diameter by 1½" long
- Available in factory-assembled units, or kit form for customer assembly

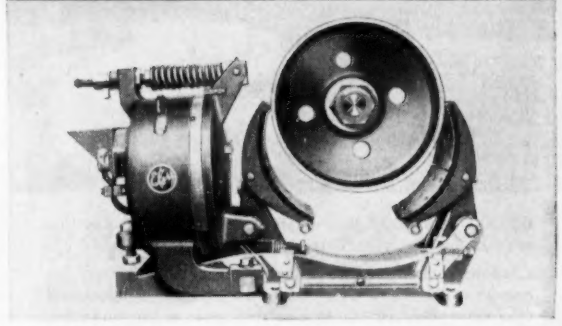
Write for Bulletin 9080-H Square D Company, 4041 North Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY

wherever electricity is distributed and controlled

▲ For more details circle NED-217 J1 on enclosed inquiry slip ▲

EC&M BRAKES for AC and DC Motors — for LONGER LIFE, FEWER ADJUSTMENTS!



E C&M Type WB Brakes, designed to the new AISE-NEMA standards, assure long life and fewer adjustments because brake lining is thick, tough and of uniform quality throughout its entire thickness. Manual release is standard and connecting lever below the wheel permits quick armature replacements. These brakes are 100% lubricated... dirt is flushed out.

Write for Bulletins 5010–5020

SQUARE D COMPANY

EC&M DIVISION • CLEVELAND 28, OHIO

wherever electricity is distributed and controlled 8018

▲ For more details circle NED-218 J1 on enclosed inquiry slip ▲

ONLY SQUARE D STARTERS WITH ONE-PIECE OVERLOAD RELAYS GIVE ABSOLUTE PROTECTION!

Write for the complete story on Square D Starters...

Plus this simple 3-minute "JIG-SAW" demonstrator

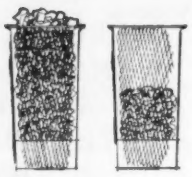
Write Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY

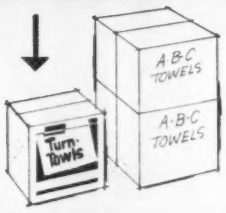
wherever electricity is distributed and controlled

▲ For more details circle NED-219 J1 on enclosed inquiry slip ▲

MOSINEE TURN-TOWLS
produce hidden cost savings



Less Maintenance Cost
Turn-Towl cabinet control cuts towel consumption 50%!



Less Storage Space
One case of Turn-Towls goes as far as four cases of ordinary towels!

Write for the name of your nearest distributor.

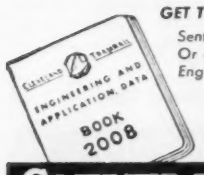
MOSINEE Sulphate Towels
BAY WEST PAPER CO.
1084 West Mason Street
GREEN BAY • WISCONSIN
Subsidiary of Mosinee Paper Mills Co.

For more details circle NED-220 J1 on enclosed inquiry slip

TRANSFER CRANES *Speed* WAREHOUSE HANDLING

60,000 to 70,000 lbs. of steel are handled into this warehouse daily and like amounts shipped out.

Cleveland Tramrail transfer cranes make it easy for one man to place long unwieldy pipes and bar stock into storage at any height in any part of the building. This enables obtaining maximum storage capacity and makes for orderliness, which is an important factor in securing high operating efficiency.



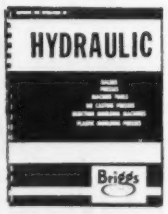
GET THIS BOOK
Sent free on request.
Or ask for Tramrail Engineer to give ideas.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6644 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-221 J1 on enclosed inquiry slip

GRATIS . . . a 12 page file size HYDRAULIC CIRCUIT and FLUID MANUAL for almost every type and size hydraulic installation



Here is a big 8½" x 11", file size, 12 page fully illustrated manual. It's brimful of technical data and drawings that every designer and engineer will want to read or keep for ready reference. Write for your copy. No obligation.

Briggs — PIONEERS IN MODERN OIL FILTRATION

HYDRAULIC FLUID FILTERS

PRODUCT RESEARCH

THE BRIGGS FILTRATION CO. DEPT. 394
WASHINGTON 16, D. C.
YES! At no cost or obligation, send me your Hydraulic Manual.
Name .....
Company .....
Address .....

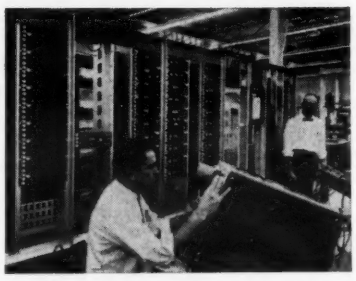
For more details circle NED-222 J1 on enclosed inquiry slip

UNIVERSAL RECORDER records combination of variables

With proper sensing elements and plug-in signal modules, this portable universal recorder can read and record up to six variables, including temperature, voltage, current, light intensity, humidity, air movement, moisture, displacement, and pressure. It utilizes a single recording mechanism and strip chart. Recording is made every 2 sec of the variable selected. On multiple-channel units, scan rates are from 2 to 12 sec per channel. Additional modules can be added at any time, and interchangeable chart speeds are offered. Prices range from $300 for two-channel units to $900 for six-channel units. • **Tipptronic, Inc.**, 510 E. Washington St., Chagrin Falls, Ohio.

For more details circle NED-223 J1 on enclosed inquiry slip

PRODUCTION CONTROL SYSTEM monitors machines, collects data, displays condition of each station

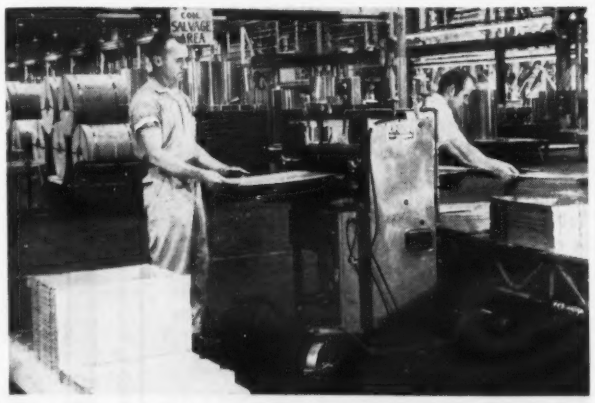


Visual display furnished by the 3100 Shoptrol production control system enables the production controller to keep up-to-date inventory and maintenance records, provide scheduling data to the factory floor, information for long and short range analysis, and accumulate payroll data for day or piece work. System comprises a control center, a vertical rack with status monitors installed in groups of 20 (background); operator control stations; paging selectors, and alarm stations.

Status monitors have three display counters which record delay time, run time, set-up time in 0.01-hr increments. Another counter accumulates number of pieces completed. Dual counters permit a second shift to use the equipment. Four lights indicate eight conditions of the paging selector. The operator control station indicates status of work being performed. Alarm station is used where only emergency conditions must be indicated.

Information produced by the system is readily convertible in a punched card or computer system to produce various types of reports, records, and schedules. Basic cost of the system is $388 per station for a 50-station operation, including operation. • **General Electric Co.**, Computer Dept., 13430 N. Black Canyon Highway, Phoenix, Ariz.

For more details circle NED-224 J1 on enclosed inquiry slip



Union Roller Coater applies drawing compounds at KAISER ALUMINUM

At the Ravenswood Works, Kaiser Aluminum & Chemical Corporation, Ravenswood, West Virginia, a Union 26" No. 5 Roller Coater gives *top performance* coating sheet aluminum prior to drawing. *Union Roller Coaters are at work everywhere*, applying drawing compounds, adhesives, paint . . . any fluid substance . . . to metal, plastic, wood, rubber, paper, fabric. Models to handle sheets from 6" to 108" wide, variable thicknesses, *coating one or both sides*, either or both edges, continuously or intermittently, automatically. What's your coating problem? *Write today!*

927 North Detroit Street

THE UNION TOOL CORPORATION
WARSAW, INDIANA

For more details circle NED-225 J1 on enclosed inquiry slip

AT SKF INDUSTRIES...

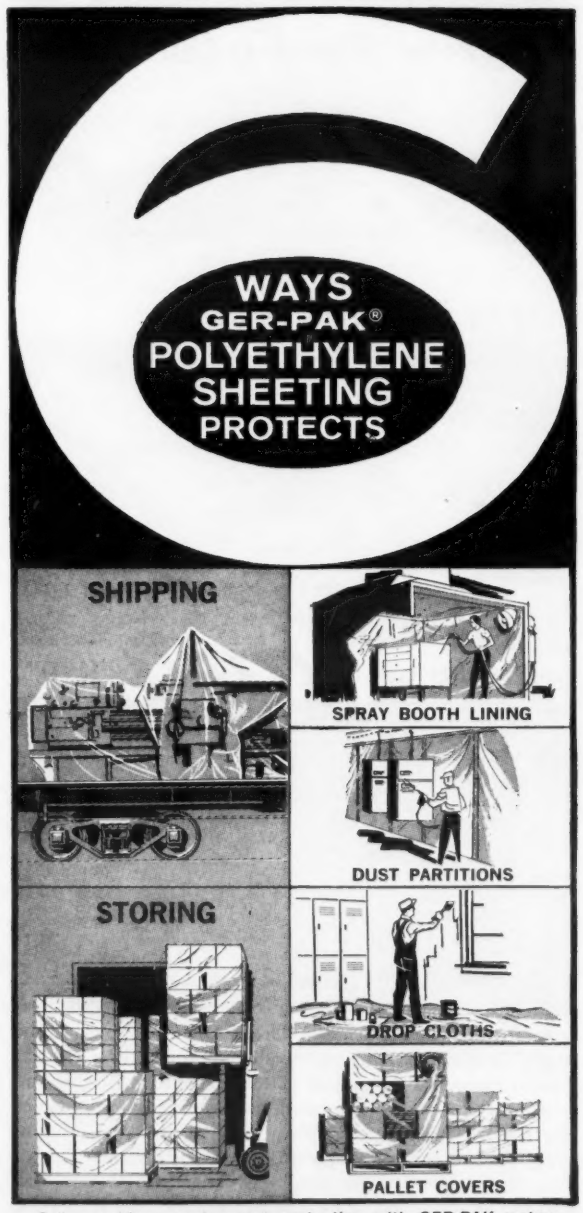
ClarkeAmatic *paid for itself, paid operators' wages and saved $7,000 MORE the first year!*

Write for full details on how Clarke-A-matic self-propelled floor maintainers slashed SKF's maintenance costs by permitting two men to do the work of seven — how it gets floors cleaner — how it can do the same for you.

THE BEST KNOWN NAME IN FLOOR MACHINES
POWER SWEEPERS • WET-DRY VACUUM CLEANERS • FLOOR MAINTAINERS • UPHOLSTERY SHAMPOOER-VACUUM

CLARKE FLOOR MACHINE COMPANY
229 E. Clay Avenue, Muskegon, Mich.
Authorized Sales Representatives and Service Branches in Principal Cities
Distributed in Canada: G. H. Wood & Co. Limited, Box 34, Toronto 18, Ont.

For more details circle NED-226 J1 on enclosed inquiry slip



Get new ideas on low-cost protection with GER-PAK waterproof polyethylene sheeting. For shipping, storage, work in process, products and equipment—bulk or small—you're fully protected against weather, dust, dirt and water. For many daily in-plant needs, heavy duty GER-PAK sheeting is a **time and money saver.** Comes in seamless sheeting up to 40 feet wide or tubing up to 20 ft. lay-flat width (standard thicknesses are 1-mil (.001 in.) to 10-mil (.010 in.). And for positive sealing, use new super-adhesive GER-PAK Polyethylene MIRACLE TAPE®, specifically designed for use with GER-PAK sheeting.

WRITE TODAY FOR SAMPLES AND LITERATURE.

GERING PLASTICS
division of Studebaker-Packard Corp., Kenilworth, N. J.

OTHER USES FOR GER-PAK POLYETHYLENE SHEETING
bags and liners for drums, cartons, crates, bins • in-plant water-proofing • equipment covers • wrapping tools • machinery covers • temporary shipping platform covers

For more details circle NED-227 J1 on enclosed inquiry slip

PRECISION PLASTIC BALLS

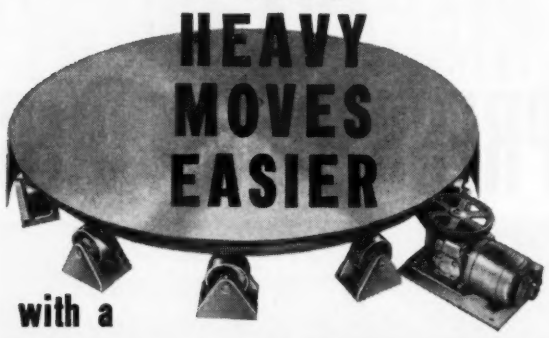
ACE is one of America's leading mass producers of seamless plastic balls for almost every commercial and industrial use. Most plastics including **nylon** and **teflon**. Complete range of sizes, colors and tolerances. Small runs or large runs. Huge stocks for immediate delivery. Quick, low-cost service on specials. Write, wire or call for samples, price lists and handy new selection chart.

SINCE 1931 EXTRUDERS A FABRICATORS

ACE PLASTIC COMPANY 91-28 VAN WYCK EXPWY · JAMAICA 35, N. Y.

▲ For more details circle **NED-228 J1** on enclosed inquiry slip ▲

MAKE HEAVY MOVES EASIER



with a

CHASE TURNTABLE

If you need to move or turn heavy materials 45°, 90°, 180°, or as much as 360° during your manufacturing process, consider a Chase turntable for the job. Ideal where hairpin turns must be made, as well as for loading and unloading operations.

Manual or power-driven — roller, caster or ball type available. Diameter and capacity to suit. Any style top — plain, rail, grooved, checkered. Rotating speed of power-driven turntables is flexible.

Write for catalog or send specifications for prompt estimate.

Chase FOUNDRY & MANUFACTURING CO.

2950 Parsons Ave. • Columbus 7, Ohio

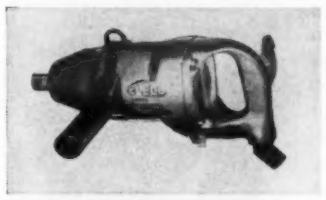
▲ For more details circle **NED-229 J1** on enclosed inquiry slip ▲

CONCEALED LATCH
for access panel on light fixtures

Access panels on enclosed lighting fixtures, when equipped with the concealed Touch Latch, will release instantly upon light pressure at any point on the panel. Similar pressure closes the panel with positive locking action. Rapid access to fixture interior speeds relamping. Latch features single hole mounting with a common nut. It can also be mounted in castings with tapped holes. • **Camloc Fastener Corp.**, 91 Spring Valley Rd., Paramus, N. J.

▲ For more details circle **NED-231 J1** on enclosed inquiry slip ▲

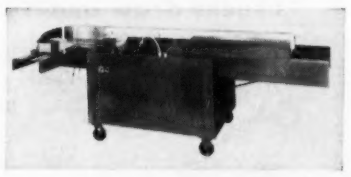
IMPACT WRENCH
compact model for 1¼-in. bolts



Lighter, shorter, and built with fewer parts than previous models, the W-1000 impact wrench uses a Single-Pak power unit in which the impact mechanism is part of the air motor. The 1¼-in. bolt size tool has fast run-down and impacts to high torque quickly. Slim nose design permits use in close quarters. Wrench has easy throttling action and a detachable handle that is adjustable through 360 degrees. • **Reed Roller Bit Co.**, Cleco Air Tools Div., Box 2541, Houston, Tex.

▲ For more details circle **NED-232 J1** on enclosed inquiry slip ▲

BAG & CARTON SEALER
handles preformed paper, plastic bags at 10-30 packages per minute



Package sizes handled by the Pemcomatic Model 33 bag and carton sealing machine range from 4 to 12 in. wide, 6 to 17 in. long, and 1 to 8 in. high. Machine is available for hand feeding by a single or several operators, or can be adapted to receive product from automatic equipment. Speed of machine ranges from 10 to 30 packages per minute.

Operator shoves product into the waiting bag and positions it against a guide rail all in one easy motion. Conveyor system carries the package to folding-tucking and gluing stations, through a heated compression chamber, and on to final delivery. Machine is mounted on four rubber-tired casters for mobility and can be adjusted and changed for different package size in less than 2 min. • **Pemco, Inc.**, 2005 New Jersey Ave., Sheboygan, Wis.

▲ For more details circle **NED-233 J1** on enclosed inquiry slip ▲

Crosby-Laughlin Turnbuckles — first choice of industry

Drop-forged. Guaranteed rated capacities. Any combination of end fittings. Self-colored or galvanized.

FREE GUIDE tells how to select turnbuckles for any size rope . . . lists over 2000 types and sizes of forged fittings for wire rope and chain. Ask your distributor for your copy.

CL-955

CROSBY-LAUGHLIN Division of AMERICAN HOIST

FT. WAYNE, INDIANA

▲ For more details circle **NED-230 J1** on enclosed inquiry slip ▲

Severance

CARBIDE End Mills outlast dozens of High Speed End Mills on most jobs!

- BETTER PERFORMANCE
- MORE PRODUCTION
- WIDER APPLICATIONS
- MAXIMUM RIGIDITY

Your SPECIAL Carbide End Mill requirements are solicited.

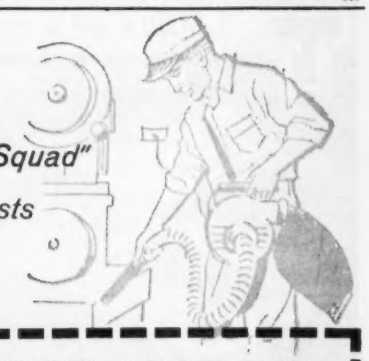
ASK FOR LITERATURE NOW!

NOTE: We Regrind BOTH H.S. Steel and Carbide End Mills. Send in your Dull Cutters Today!

Severance TOOL INDUSTRIES INC.
761 IOWA AVE.,
SAGINAW, MICHIGAN

▲ For more details circle **NED-234 J1** on enclosed inquiry slip ▲

"One-Man Cleaning Squad" Shaves Costs



GOES ANYWHERE--WORKS FAST

BLOWS
VACUUMS
SPRAYS
DRIES*

IDEAL

HAND-TYPE CLEANER

Pick the hardest cleaning jobs in your plant *or* front office. Machinery, storage bins, floors, scrap collection—even draperies, rugs and venetian blinds. This cleaner was built to handle them all—with least effort and in least time!

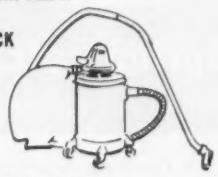
You get up to 26,500 feet per minute dry air blowing velocity (Heavy-Duty model) to remove chips and litter from difficult spots around machines and shelves. Yet it's gentled by Ideal air-engineering to be harmless to most sensitive equipment. Simple, low-cost attachments make spraying and drying* just as easy.

For vacuum cleaning, there are attachments, nozzles, hoses to handle every pick-up chore. Light-weight, balanced design minimizes fatigue. Three models: 1-1/3, 2/3, and 2/5 HP. You pick the power and the attachments to do your job best—and at lowest initial and operating cost.

*2/5 H.P. Model only available with heater nozzle.

FOR WET OR DRY PICK-UP LOW-COST TANK CONVERSION PACK

Hand-type unit slips onto tank to convert any Heavy or Medium Duty model into a powerful Tank-Type cleaner. Water and cleaning solutions stay in the 12-gallon tank, dust and dirt pass into the dust-tight bag. Pack consists of tank and bag. Attachments extra.



Built to last for years and years of heavy service, all IDEAL Cleaners carry a written guarantee for your protection.

SOLD THROUGH AMERICA'S LEADING DISTRIBUTORS
In Canada: Irving Smith, Ltd., Montreal

Get the Value-Facts Now! Mail Coupon

IDEAL INDUSTRIES, Inc., 1032-I Park Avenue, Sycamore, Illinois
Send catalog data on IDEAL Cleaners and Blowers

Name_____
Company_____
Address_____
City_____ Zone_____ State_____

▲ For more details circle **NED-235 J1** on enclosed inquiry slip ▲

...MARK OF A SPEED NUT®

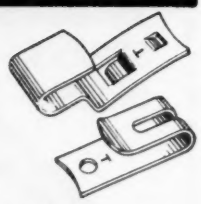
- One-piece, spring steel, vibration proof
- Exclusive "heel and toe" lock for easy, quick application
- Easily slides into locking position in holes in metal or plastic
- Removable and re-usable
- Various sizes to hold cylindrical parts from 3/8" to 1½" in diameter and to fit a wide range of panel thicknesses

Write for free descriptive literature LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO
For more details circle NED-237 J1 on enclosed inquiry slip

...MARK OF A SPEED NUT®

- One-piece, spring steel, vibration proof
- Exclusive "heel and toe" lock for easy, quick application
- Easy to mount in center panel holes or blind locations
- Available for a wide range of panel thicknesses



Write for free descriptive literature LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO
For more details circle NED-238 J1 on enclosed inquiry slip

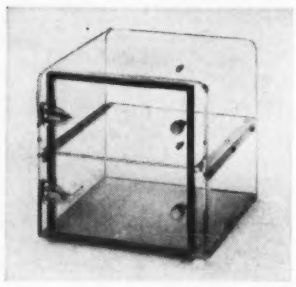
...MARK OF A SPEED NUT®

- One-piece, heat-treated spring steel
- Use with ball studs, plain or serrated rivets, lanced tabs
- Press quickly into locked position—firm and secure
- Permit fast, easy removal . . . have long, dependable life
- Available with pull-out tensions ranging from 3.5 to 30 lbs.

Write for free descriptive literature LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO
For more details circle NED-239 J1 on enclosed inquiry slip

TRANSPARENT STORAGE CABINETS
protect delicate parts from dust



Transistors, miniature bearings, and other sensitive or delicate parts can be stored before final assembly or packaging in these transparent storage cabinets. Fabricated from 1/4-in. clear Plexiglas, cabinets fit standard work benches, can be stacked, and protect parts from dust, moisture, and harmful atmospheres. One, two, and three-door units measure 12 x 12 x 12, 16 x 18 x 18, and 16 x 27 x 18 in., respectively. • **Air Control, Inc.**, 450 Narberth Ave., Narberth, Pa.

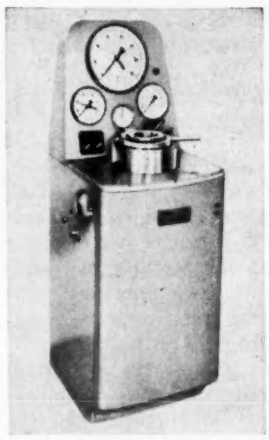
For more details circle NED-240 J1 on enclosed inquiry slip

RECTIFIER TESTER
checks diodes for leakage, efficiency

In a simple two-step method, this new version of the Model 51 coil and condenser tester determines the efficiency of rectifiers (diodes) in alternator-equipped engines. It checks the rectifier on a special alternating-current circuit. Then, by applying reverse direct-current voltage, device will show any leakage present. This feature can be added to present Model 51 testers for $17.50. New units with the combined testing feature list for $186.50. • **Graham Research, Inc.**, 666 22nd Ave. N. E., Minneapolis 18, Minn.

For more details circle NED-241 J1 on enclosed inquiry slip

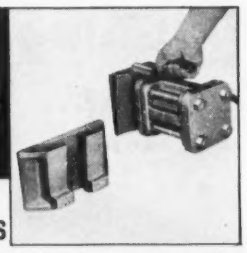
DRAW TESTING MACHINE
checks draw quality of sheet metal



Drawing qualities of sheet metal can be predicted with tests performed on the 70,000-lb capacity Ductomatic Sheet Metal Tester. Specimens to 5/16 in. thick can be tested using standard ductility cup, deep draw cupping, or hole expansion methods. Clamping pressure can be regulated to 8000 lb to determine proper pressure and eliminate deep draw folding or cracking. It has a 3-in. stroke. Optional electronic shut-off automatically stops test as soon as crack appears in specimen. • **Tinius Olsen Testing Machine Co.**, Easton Road, Willow Grove, Pa.

For more details circle NED-242 J1 on enclosed inquiry slip

CLEVELAND
LIGHTWEIGHT PORTABLE
VIBRATOR



FAST UNLOADING OF
RAILROAD CARS, BINS, TRUCKS

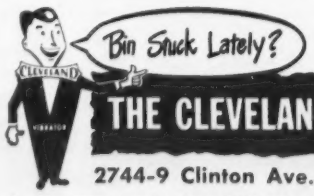
Speed your unloading and handling of bulk materials with a pneumatic vibrator that goes to work where and when you want it. Lightweight, well-balanced Cleveland LSRR Portable Vibrators are ideal for railroad cars, bins, and trucks as well as large and small concrete forms that call for occasional vibration.

One moving part, a piston, delivers 7000 to 8000 vibrations per minute at maximum speed with a minimum air consumption. The all-steel unit has a dovetailed foot which slips into a cast steel bracket for solid fit. Hydraulic Vise Clamp models are also available which can be quickly attached to any structural member of a railroad car, bin, or truck.

Count on Cleveland for proven quality air and electric vibrators, vibrating feeders and tables.

For complete details, write for Catalog #109

3336CV



THE CLEVELAND VIBRATOR CO.
2744-9 Clinton Ave. • Cleveland 13, Ohio
For more details circle NED-243 J1 on enclosed inquiry slip

FOR FAST TALK
THAT PAYS OFF

your business needs...

ELECTRONIC AMPLICALL INTERCOMMUNICATION

the "clear line" to everyone in your business...

available with privacy handset, light and chime signals

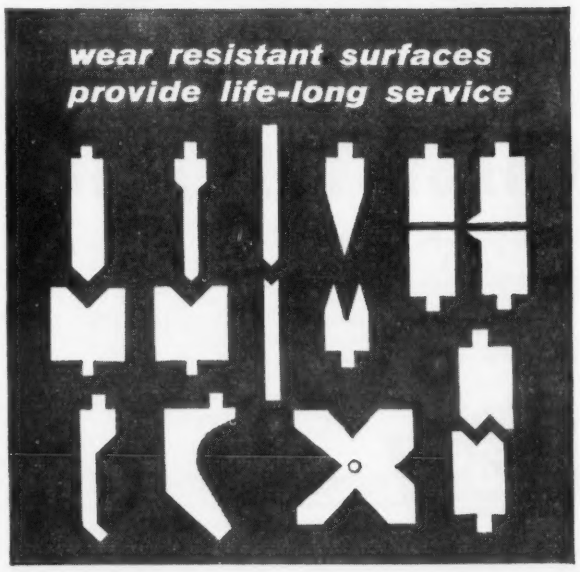
★ AMPLICALL saves time and cuts costs because it provides *2-second speech contact* within and between all departments of your business. At the touch of a button, you get information, issue instructions, hold conferences, speed action in plant and office. AMPLICALL takes the load off busy switchboards, ends wasteful walking and waiting—pays for itself in speedier, more efficient operations. There is an AMPLICALL system for your exact needs. Get the facts today.

★ See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.

RAULAND-BORG CORPORATION
3535-H Addison St., Chicago 18, Ill.
For more details circle NED-244 J1 on enclosed inquiry slip

NIAGARA TUFLOY
PRESS BRAKE DIES

wear resistant surfaces
provide life-long service



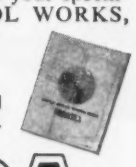
tremendous variety of
standard types and sizes
carried in stock

Here is your economical, time-saving answer to a wide range of bending and forming requirements.

Extremely durable, Niagara Tufloy dies are made of heat treated, stress relieved, and machine straightened alloy steel. Unlike dies of surface hardened carbon steel, they are uniformly strong all the way through. Work surfaces are smoothly finished to minimize friction, wear, and marring of work. Accurate alignment of tongue and working surface assures proper mating of die set, reducing set-up time. Tufloy dies may be re-worked or even modified without annealing and hardening.

The most widely used standard types are stocked in 2, 4, 6, 8, 10, and 12 foot lengths for immediate shipment. Special punches and dies can be produced to your specifications. NIAGARA MACHINE & TOOL WORKS, BUFFALO 11, N. Y.

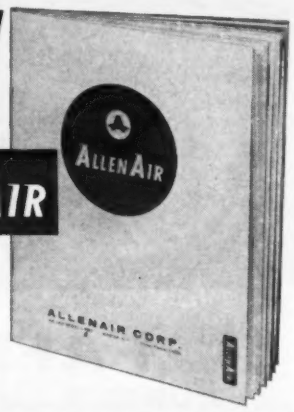
SEND FOR BULLETIN 92
Contains specifications and application data for all stock dies . . . tells how to order "specials," too.

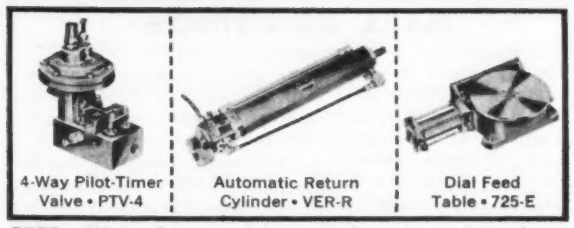


NIAGARA
District Offices and Distributors Everywhere
For more details circle NED-245 J1 on enclosed inquiry slip

"GOLD MINE" OF VITAL INFORMATION

NEW ALLEN AIR DATA BOOK





FREE—Write for Your Copy Before Next Tuesday!

ALLEN AIR CORPORATION
273 EAST 2nd STREET, MINEOLA, NEW YORK

For more details circle NED-246 J1 on enclosed inquiry slip

ALVA ALLEN Heavy Duty PUNCH PRESSES

1 to 25 Ton Capacity Presses in Hundreds of Different Model Combinations

Powerful—Dependable
Moderate in Price
Fully Guaranteed

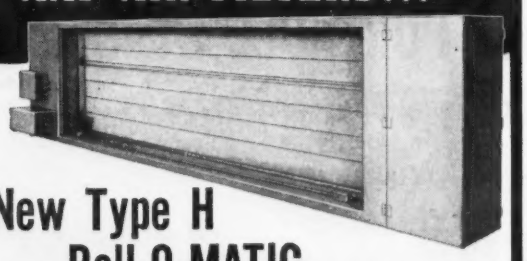
Including accessories — Motors and Controls, Dial Index Feeds, Air Clutch-Brake Units, Safety Equipment, Friction Roll Feeds, Punch and Die Units, etc.....

Thousands in Use the World Over

ALVA ALLEN INDUSTRIES, Dept. NED
Clinton, Missouri Tel. TUrner 5-3331

For more details circle NED-247 J1 on enclosed inquiry slip

AAF AIR FILTERS...



New Type H Roll-O-MATIC features horizontal design

● This is the horizontal version of the time-tested AAF Roll-O-Matic air filter—ideal for central station air handling units or ventilating systems where limited headroom is a factor. With the Type H it's not necessary to enter the duct to replace media or service electrical accessories. And, like the vertical design Roll-O-Matic, the Type H cleans itself automatically while it cleans the air. Maintenance amounts to nothing more than infrequent replacement of Roll-O-Mat media—a job as simple as loading film in a camera.

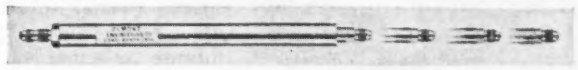
Write for Bulletin No. 248. Address: Robert Moore, American Air Filter Company, Inc., 391 Central Avenue, Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-248 J1 on enclosed inquiry slip

EXTENSION SWIVEL FITTING
rotating end extends 6 in.

In addition to 360-degree rotation at one end, this low-torque swivel fitting for fluid systems permits 6 in. extension of the rotating end. This allows two sec-



tions of a fluid line system to be connected, then drawn together. It also affords compensation for thermal expansion and contraction. Unit operates between −65 to 300° F at pressures to 5000 psi. Pressure drop in the ¼-in. tube sizes is less than 5 psi at 1.2 gpm flow of MIL-H-5606 hydraulic fluid at 70° F. In a hydraulic system at 3000 psi, force required for either rotation or extension is less than 14 lb. Various configurations, sizes, and fitting ends are available. ● **Dumont Engineering Co.**, 1401 Freeman Ave., Long Beach 4, Calif.

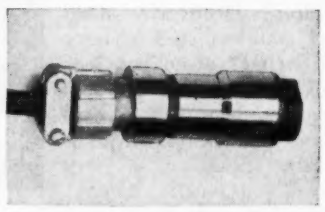
For more details circle NED-249 J1 on enclosed inquiry slip

CABLE CLAMPS
have strain relief feature

Two styles of aluminum clamps for cables, cord, and tubing are offered with or without a flame-resistant neoprene cushion. High friction coefficient of the cushion prevents slipping of cable or tubing, as well as any strain on connections. It also resists oil and prevents damage to cords. Sizes for ⅛ to 2-in. cable are made in 1/16-in. increments. ● **Richco Plastic Co.**, Dept. ND-5, 3722 W. North Ave., Chicago 47, Ill.

For more details circle NED-250 J1 on enclosed inquiry slip

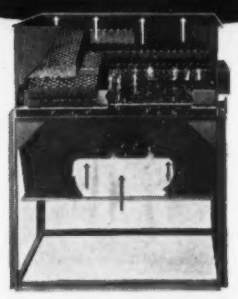
PRESSURE TRANSDUCERS
accuracy over 250° F is 1 per cent



Characteristics of Ultradyne pressure transducers make them suitable for use inside or near reactor cores, in contact with molten metals, close to high temperature exhausts, or in other severe environments. They provide accurate measurements from −65 to 1000° F within 1 per cent over a 250° F span. Gage, absolute, and differential pressure measuring types in the 411 Series provide nominal full scale output of 200 mv with measurements ranging from 0.6 to 5000 psi. Independent of line voltage and temperature variations, they may use a common power supply for multichannel operations. Materials in contact with pressure medium are stainless steel, Inconel, and Inconel-X, or PH15-7MO. Input power is 110 v ac at 60 or 400 cycles or 28 v dc. ● **Consolidated Controls Corp.**, Bethel, Conn.

For more details circle NED-251 J1 on enclosed inquiry slip

AAF DUST COLLECTORS...



Type M Cycoil stops plant mists and vapors

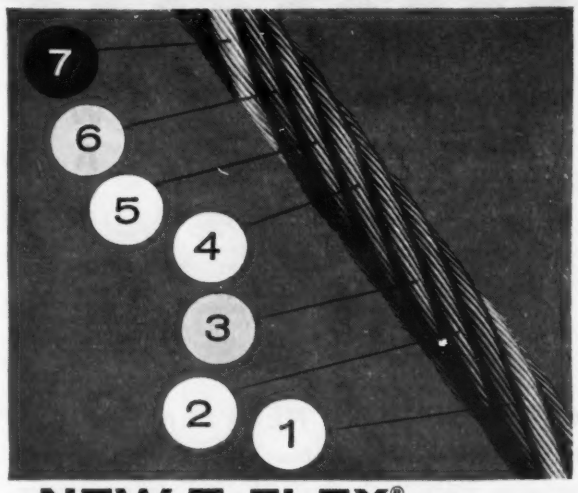
● Why put up with polluted air from plating tanks and other vapor-discharging industrial processes? AAF's Type M CYCOIL costs less, is more efficient, takes up less space, and weighs less than conventional wet collectors used for this application.

Exhaust air or gas is scrubbed by thousands of flooded contact surfaces in the fluid bed pad. No liquid retention, no recirculating pumps, no heavy scrubbing or eliminator section required. Normal water supply: only 3 quarts per hour per 1000 cfm. Available in 7 sizes, from 1,200 to 24,500 cfm.

Write for Bulletin No. 286. Address: Robert D. Moore, American Air Filter Company, Inc., 391 Central Ave., Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-252 J1 on enclosed inquiry slip



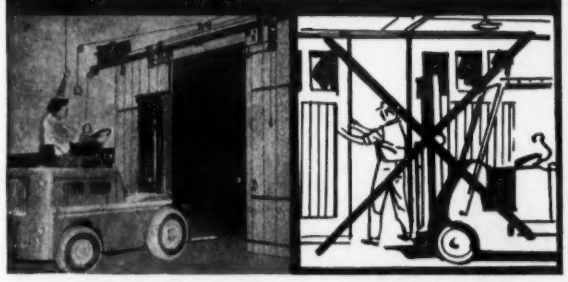
NEW 7-FLEX® makes important savings on most wire-rope applications

All-new Macwhyte 7-strand rope is flexible as 8-strand — rugged as 6 x 19 — fatigue-resistant like 6 x 37. You'll get longer rope life, lower costs. Ask any Macwhyte distributor. Write for Bulletin 60100-R.

MACWHYTE Wire Rope COMPANY
2900 Fourteenth Avenue, Kenosha, Wis.
WIRE ROPE MANUFACTURING SPECIALISTS SINCE 1896

For more details circle NED-253 J1 on enclosed inquiry slip

Waste motion costs time and money ... speed up production traffic with



R-W ELECTRIC OPERATORS
FOR INDUSTRIAL DOORS AND GATES

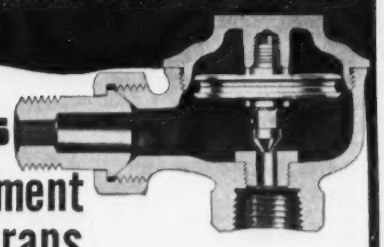
R-W offers a complete line of heavy-duty, top-quality Electric Operators designed to meet the rugged demands of industrial use. R-W Electric Operators will help speed up production traffic, smooth the traffic flow, and eliminate heat loss in winter and conditioned air loss in summer. R-W Electric Operators automatically open plant doors as traffic approaches and then close the doors safely and smoothly... eliminates door slamming and rough handling. Whether it swings, slides, raises or folds, R-W can open it automatically.

Write for your free copy of Catalog No. 200.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD ST. • AURORA, ILL. • Branches in all Principal Cities

For more details circle NED-254 J1 on enclosed inquiry slip

What's new in AAF STEAM SPECIALTIES



illinois replacement traps

Here are 3 ways these *low cost, guaranteed* traps save money in your heating system. They save:

● **INSTALLATION COSTS**—They are *complete* traps tailored to fit your present lock nut and tail piece. Fast, simple to install.

● **FUEL COSTS**—They eliminate leaky, fuel-wasting traps . . . restore "like-new" efficiency to radiators.

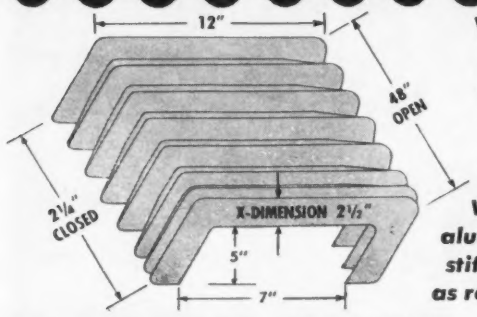
● **MAINTENANCE COSTS**—Every trap is radiator-tested to assure years of reliable operation. Some Illinois traps have been in service *50 years and more!*

Send for more information on Illinois Replacement Traps. Write: Illinois Division, American Air Filter Company, 391 Central Avenue, Louisville 8, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-255 J1 on enclosed inquiry slip

PROTECTED WAYS



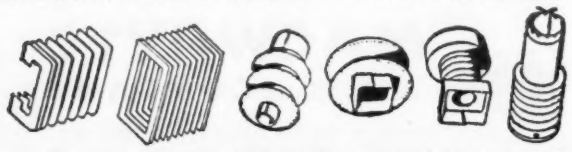
With aluminum stiffeners as required

OIL RESISTANT NEOPRENE

NOTE: 2½" dim. determines the small, 2¼" close. Variations in "X" govern closed lgth.

GORTITE, new, pliable way-protectors for . . . milling machines, grinders, boring bars and other machine tools are fabricated to order from fiberglas and new neoprene-base materials. Ask for new bulletin GW-100. A&A MFG. COMPANY INC., 712 S. 12th St., Milwaukee 4, Wis.

BELLOWS . . BOOTS . . SLEEVES . . WAY PROTECTORS



For more details circle NED-256 J1 on enclosed inquiry slip

New PAYLOADER®

25% more capacity

When the Model H-30 was originally introduced, more than a year and a half ago, it was far ahead of any other tractor-shovel in its class. It has been exceptionally well received — praised by owner and operator alike. Now, HOUGH'S continuing program of research, development and improvement, creates the new H-30 series "B" model — an even better machine.

More Capacity: With 1¼ cu. yd. bucket, this new model has 25% more capacity without sacrificing the exceptional stability and balance of the original H-30.

More Safety: The only loader in its class with boom arms positioned ahead of and away from the operator. It has walk-in operator compartment, new hand rails, new adjustable bucket seat and unmatched operator visibility.

Less Maintenance: The only loader in its class with simplified boom mechanism having 6 to 12 fewer pivot and grease points to service. All bucket and lower-boom pivot points sealed against dust and dirt.

More Power: More hp per pound than comparable loaders. Torque-converter proportions power properly between drive-train and hydraulic needs.

Better Braking: Only loader in its class with 4-wheel, sealed hydraulic brakes, and with "Operator's choice" dual brake pedals that permit operator to brake with or without transmission engaged. Exclusive HOUGH axle design allows servicing of brakes without removing and exposing the planetary hubs to dust and dirt.

It's the only loader in its class with full power-shift transmission that does not have to stop for "range" shifts . . . with separate fan-cooled oil-to-air radiator to cool torque-converter transmission oil . . . with closed, pressure-controlled hydraulic system to keep out air-borne dust and moisture.

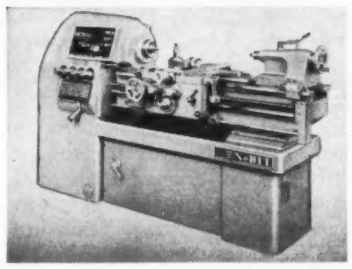
For additional information, see your HOUGH Distributor or write. 9-B-4

HOUGH®

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY — INTERNATIONAL HARVESTER COMPANY

For more details circle NED-257 J1 on enclosed inquiry slip

HIGH SPEED PRECISION LATHE
spindle speeds from 43 to 3500 rpm can be infinitely selected

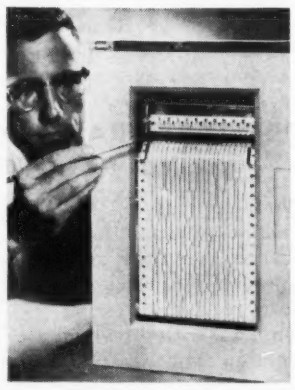


A mechanical speed variator drive and special coaxial spindle design afford infinite selection of spindle speeds from 43 to 3500 rpm on the Micro - Turn high-speed precision lathe. Constant, full drive horsepower is delivered through the entire range, with output speed maintained within 0.2 per cent. In the low speed range up to 400 rpm, lathe operates through planetary gear unit. Above 400 rpm, coaxial headstock sections lock into a single unit and lathe operates without gearing through matched multiple V-belts directly from main drive to spindle.

Shifting between high and low speed ranges can be accomplished while spindle is rotating or stationary. Totally enclosed pressure lubricated gear box provides 60 thread changes from 4 to 240 threads per inch and 60 feeds from 0.0005 to 0.0337 in. per revolution of spindle. • **Nebel Machine Tool Corp.**, Lathe Div., 3430 Central Parkway, Cincinnati 25, Ohio.

For more details circle NED-258 J1 on enclosed inquiry slip

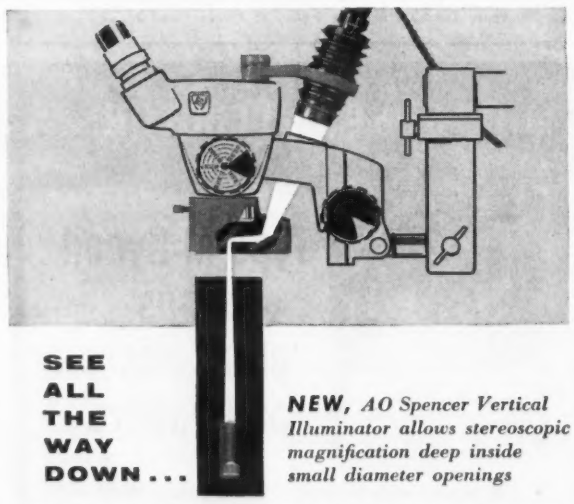
INKLESS GRAPHIC RECORDER
10 and 20-channel models operate 50 days without change in charts



Both 10 and 20-channel models are offered in the 620 inkless event recorder which uses the Tempen writing system to operate more than 50 days without a change in charts. It employs electrically - heated stainless steel styluses to write "yes-no" or "on-off" information on special nonwax paper. Styluses are heated from a 120-v ac source, or from a 12-v storage battery. Tests show that they will last through 20 yr of continuous operation and retain 1/20-sec response.

Among the recorder's many uses are supervision of chemical processes, heating or refrigeration systems, and air conditioning systems. It can be ordered with synchronous motor, selsyn, or phantom chart drives and with chart speeds from ¾ iph to 6 ips. All charts are 80 ft long and have rectilinear coordinates arranged for easy timing of events. Line width is rheostat controlled. • **Esterline Angus Instrument Co.**, Box 596, Indianapolis 6, Ind.

For more details circle NED-259 J1 on enclosed inquiry slip



SEE ALL THE WAY DOWN . . .

***NEW,** AO Spencer Vertical Illuminator allows stereoscopic magnification deep inside small diameter openings*

The new Vertical Illuminator and the AO Spencer Cycloptic Stereoscopic Microscope make a unique team that can be the answer to your problem whether it's the inspection of detail in small diameter, deep hole borings, or delicate assembly of miniaturized parts where every move is critical.

This low-cost illuminator readily attaches to the Cycloptic to provide efficient, shadowless illumination deep inside small orifices . . . and the Cycloptic delivers realistic, erect, true three-dimensional magnification of the illuminated detail.

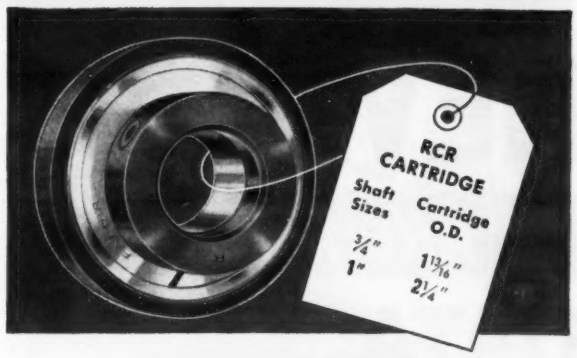
The remarkable long working distance afforded by Cycloptic (up to 7 inches when Illuminator is used with 53 and 59 Series) gives you *plus* advantages . . . permits ample room for large objects or inspection and assembly tools.

Add this unit to your present Cycloptic or ask about low-cost Vertical Illuminator and Cycloptic stereoscopic microscope combinations.

American Optical COMPANY
INSTRUMENT DIVISION, BUFFALO 15, NEW YORK

IN CANADA—American Optical Company Canada Ltd., Box 40, Terminal A, Toronto, Ontario

For more details circle NED-260 J1 on enclosed inquiry slip

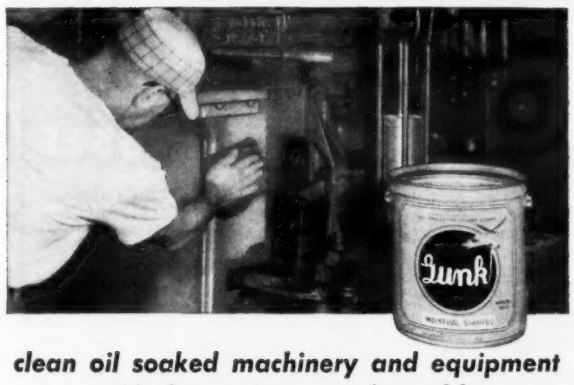


FAFNIR
RUBBER-CUSHIONED BALL BEARINGS

Modernization of heating and cooling equipment comes easy with Fafnir's RCR Ball Bearing Cartridges. They are made in sleeve-bearing sizes, for easy interchangeability. Features include: Permanent prelubrication (no greasing needed—ever!) . . . specially-finished balls and races for super-quiet service . . . "vibration-proof" grommet of special, current-conducting rubber (eliminates grounding clips, springs) . . . Fafnir-originated self-locking bearing collar (positive locking; no mounting accessories needed). Ask your Authorized Fafnir Distributor for details. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS

For more details circle NED-261 J1 on enclosed inquiry slip



clean oil soaked machinery and equipment with fast-acting, non-burnable

GUNK®
INDUSTRIAL SHAMPOO!

. . . write NOW for details

® Reg. trade mark

GUNK LABORATORIES, INC.
Gunk Chicago Co., River Forest, Illinois serving the Midwest and Southwest
Radiator Specialty Co., Charlotte, No. Carolina serving the East, Southeast and far West

For more details circle NED-262 J1 on enclosed inquiry slip

NOW-A FULL LINE* OF PORTABLE STACKERS
for Bulk, Bags and Boxes

- ECONOMICAL
- VERSATILE
- HANDY

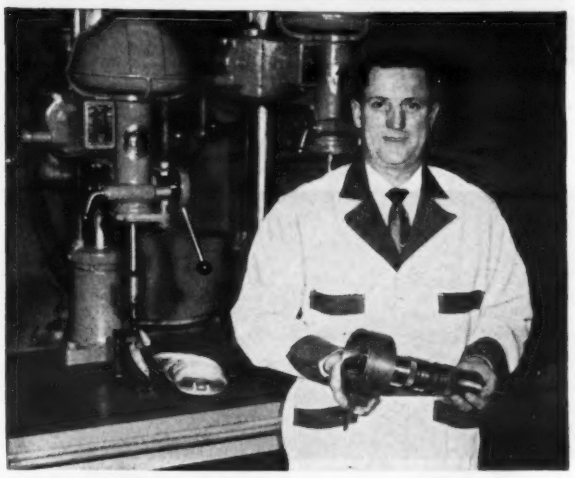
*Now Available: The "Budgeter" "Deluxe" "King Size" Bulk—With Hopper

Long recognized as pioneers of engineered, plant wide conveying systems, A-F is now becoming well known—not only for pre-engineered "E-Z Bild" popular priced conveyor components but also for excellent portable stackers and loaders priced economically. Need a stacker? Write for new catalog pages featuring various models—today.

A-F **A-F Conveyors**
Pre-Engineered Conveyor Components
Wheel, Roller, Belt, Trolley
Also Complete Engineered Systems

THE ALVEY-FERGUSON CO., 716 Disney St., Cincinnati 9, Ohio

For more details circle NED-263 J1 on enclosed inquiry slip



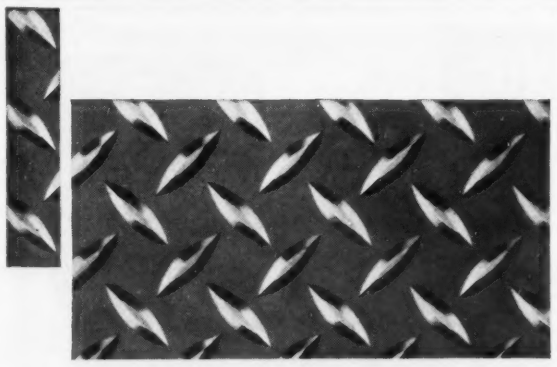
"This Bokum recess tool and holder increased our production by 608%"

"The Bokumatic Model B-1 tool holder and recessing cutter lets us cut 4-7/16" diameter snap ring retaining grooves in passenger car mirrors at the rate of 425 per hour as compared to the 60 we would have gotten on a lathe set-up," says M. M. Andrews, president, Mutual Plating and Die Casting Co., Detroit, Michigan. This is typical of the way in which the standard Bokumatic tool holder can be adapted to meet special requirements. For complete information write for a free copy of the BO-1-60 catalog.

BOKUM TOOL COMPANY, INC.
14775 WILDEMERE AVENUE
DETROIT 38, MICHIGAN

For more details circle NED-264 J1 on enclosed inquiry slip

For more details circle NED-265 J1 on enclosed inquiry slip



SHEAR IN ANY DIRECTION
Alan Wood Super Diamond Floor Plate
...IS EASY TO MATCH

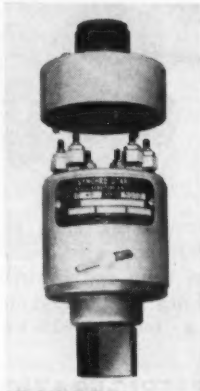
Non-directional pattern makes matching easy.
- shear it . . . easily cut with standard shop equipment.
- form it . . . arrangement of unique pattern lets you bend it at any place.
- weld it . . . can be easily and quickly welded by ordinary welding methods.

For fabrication ease . . . for safety . . . for long wear . . . specify Alan Wood Super Diamond floor plate.
Write for Bulletin SD-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Manufacturer of the world's only abrasive rolled steel floor plate—A. W. ALGRIP

For more details circle NED-266 J1 on enclosed inquiry slip

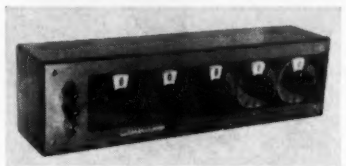
SPEED-SENSITIVE SWITCHES operate at speeds to 7000 rpm



Speed-sensitive switches with four, five, or six elements control speed of 200 to 7000 rpm. Each operating point of a three-switch governor operates two adjustable switches instead of one, affording six adjustable switching elements instead of three. Switches have independent normally-open and normally-closed contacts rated 10 amp at 115 v ac. Maximum range is determined by dividing the normal speed of the governor shaft by the number of switches contained in the governor. • **Synchro-Start Products, Inc.,** 8151 N. Ridgeway Ave., Skokie, Ill.

For more details circle NED-267 J1 on enclosed inquiry slip

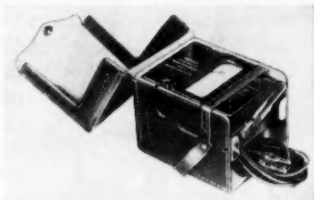
DECADE RESISTORS provide in-line digital readout



Choice of four, five, or six decades with resolutions of 100 milliohms, or 1, 10, and 100 ohms per step is provided by Dekabox decade resistors. They afford in-line digital readout and have a total zero resistance per box of less than 20 milliohms. Total resistance values available range from 1.1110 K ohms to 1.111,110 megohms. Individual resistors have a temperature coefficient of ±10 ppm per 1° C above 100 ohms and ±20 ppm per 1° C below 100 ohms. Prices range from $100 to $195, depending upon number of decades and ratings. • **Electro Scientific Industries Inc.,** 7524 S. W. Macadam Ave., Portland 19, Oreg.

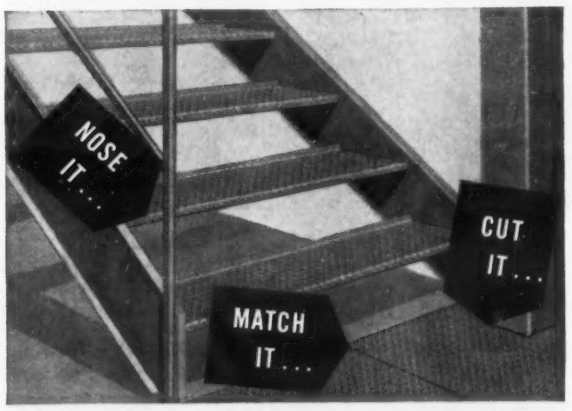
For more details circle NED-268 J1 on enclosed inquiry slip

INSULATION TESTER has constant voltage hand generator



Minimum of skill is required to make and record test data with the Mark III Megger insulation tester, successor to the Midget Megger. The pocket-size instrument has a constant-voltage hand generator which keeps it ready for immediate use without dependence upon batteries or other current supply. Three ranges are 100 v dc, 0.02 to 20 megohms; 250 v dc, 0.05 to 50 megohms; and 500 v dc, 0.1 to 100 megohms. Each is also offered with a double scale and selector switch for 0 to 10,000 ohms. Optional leather case protects the instrument in field service and affords lead storage space. • **James G. Biddle Co.,** 1316 Arch St., Philadelphia 7, Pa.

For more details circle NED-269 J1 on enclosed inquiry slip



Alan Wood Super Diamond floor plate is
. . . EASY TO FABRICATE

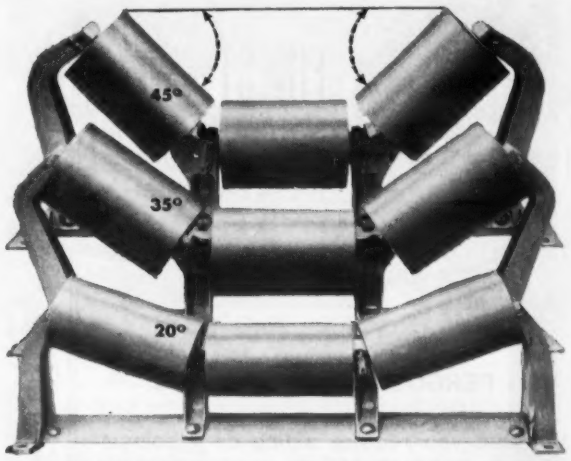
Here's a heavy duty floor plate that can be sheared, formed, welded, and easily matched. The arrangement of the unique "A. W." pattern allows you to bend it at any place.

A. W. Super Diamond will last for years . . . provides a safe, non-skid footing at all times. A. W. Super Diamond can be swept, hosed or mopped easily . . . from any angle.

For easy fabrication and installation . . . for safety . . . for long wear . . . specify A. W. Super Diamond. Write for Bulletin SD-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Also manufacturer of the world's only abrasive rolled steel floor plate—A. W. ALGRIP

For more details circle NED-270 J1 on enclosed inquiry slip



PERMASEAL® BELT IDLERS
...sealed for long service

PERMASEAL Idlers are built to last. Double flexible diaphragm seals keep grease in, dirt out. Protect bearings for years without field servicing. Jeffrey quality construction means greater dependability, lower maintenance and longer life.

Get all the facts on PERMASEAL Belt Idlers. Send for our new catalog – No. 996! The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio.

JEFFREY

For more details circle NED-271 J1 on enclosed inquiry slip

WHATEVER YOUR BENDING PROBLEM

Whether it's production bending or piece bending of pipe, tubing, bus bar, reinforcing bar or structural metal, there's a PEDRICK machine to do the job – fine, fast and economically.

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

"You'll see the complete line of our machines in the NEW PEDRICK LINE BULLETIN. Send for it now."

BEND WITH PEDRICK

For more details circle NED-272 J1 on enclosed inquiry slip

Alan Wood Super Diamond floor plate is
. . . EASY TO BEND

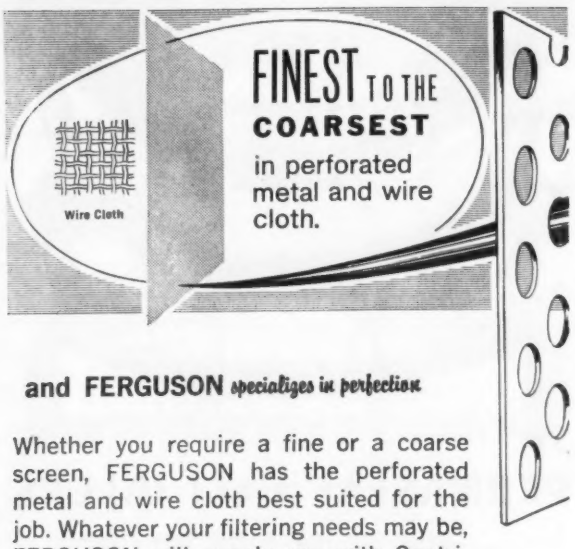
Form this heavy duty floor plate to fit steps, ramps and walkways...it bends readily. Fabrication is easy. You can shear A. W. Super Diamond, weld it and match it wherever necessary.

A. W. Super Diamond provides a safe, non-skid footing . . . won't chip, splinter or crack. It's easily swept, mopped or hosed from any direction and drains freely.

For easy fabrication and installation . . . for safety . . . for long wear . . . specify A. W. Super Diamond. Write for Bulletin SD-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Also manufacturer of the world's only abrasive rolled steel floor plate—A. W. ALGRIP

For more details circle NED-273 J1 on enclosed inquiry slip



and FERGUSON *specializes in perfection*

Whether you require a fine or a coarse screen, FERGUSON has the perforated metal and wire cloth best suited for the job. Whatever your filtering needs may be, FERGUSON will supply you with Centrifugal Screens, Backing Wire and custom built Filter Leaves.

FERGUSON PERFORATING & WIRE CO.
130-140 Ernest Street Providence 5, Rhode Island
WRITE FOR OUR CATALOG
▲ For more details circle NED-276 J1 on enclosed inquiry slip ▲

2 DECADES OF PIONEERING RESEARCH, THOUSANDS OF LABORATORY TESTS BY

FINE ORGANICS

INSURES SUPERIOR QUALITY EMULSION CLEANERS AT LOWER COST!

Since its inception more than 20 years ago, FINE ORGANICS has conducted a continuous research program to determine better ways of producing safer, more effective EMULSION CLEANERS for industrial use. We constantly review case histories, speak to maintenance supervisors and personnel in every type of industry. As a result of this extensive field and laboratory research, FINE ORGANICS offers a complete family of superior Emulsion Cleaners . . . precise chemical emulsions lab-tested and job-tested for cleaning and degreasing safely, efficiently, economically.

The list of companies, both large and small, which use FINE ORGANICS Emulsion Cleaners grows longer with each passing month.

As always — FINE ORGANICS continually formulates special products "hand-tailored" to do specific jobs SAFELY. If you have an unusual cleaning or degreasing problem, write and tell us about it. If it can be licked, FINE ORGANICS will solve it for you!

In our big family of

F.O. EMULSION CLEANERS

there's one for practically every job . . . and every one will save you time and money

F.O.-106 Solvent Emulsion Cleaner (Super Concentrate)
F.O.-109 Waterless Cleaner (Stratogel)
F.O.-154 Ready to Use Emulsion Cleaner for Sodium Grease
F.O.-167 Heavy Duty Degreaser, For Shipboard Use; U.S. Coast Guard Certificate No. 474
F.O.-211 Oil Cooler Cleaner
F.O.-225 Emulsion Cleaner, Emulsion Concentrate
F.O.-226 Emulsion Cleaner, Non-Phenolic
F.O.-229 Solvent Cleaner, Cresol Base
F.O.-258 Axle Sludge Solvent
F.O.-259 Heavy Duty Grease Solvent; U.S. Coast Guard Certificate No. 473
F.O.-259C Heavy Duty Grease Solvent Concentrate
F.O.-272B Waterbase Aircraft Surface Cleaner

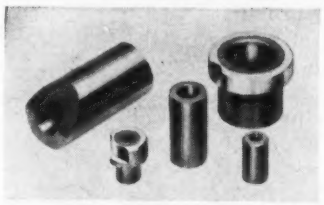
FREE "AN INDEX TO SOLVING MAINTENANCE PROBLEMS" — Informative Technical Booklet.

Write today to Dept. NE-9

FINE ORGANICS, INC.
205 MAIN ST., LODI, NEW JERSEY
Warehouses in Principal Cities

A COMPLETE FAMILY OF FINE MAINTENANCE PRODUCTS
▲ For more details circle NED-277 J1 on enclosed inquiry slip ▲

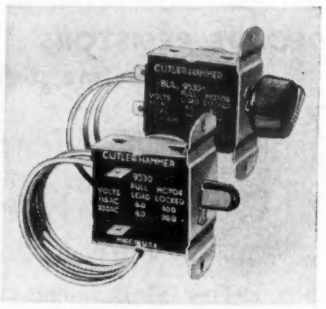
CARBIDE BUSHINGS reduce machinery down time



Added to line of bushing products are these tungsten carbide bushings which minimize machinery down time because of long service life on high production runs. In cases of severe wear, such as in drilling angular holes, carbide bushings give accurate hole location over long periods of time and contribute to long drill life. • **Ex-Cell-O Corp.**, 1200 Oakman Blvd., Detroit 32, Mich.

▲ For more details circle NED-278 J1 on enclosed inquiry slip ▲

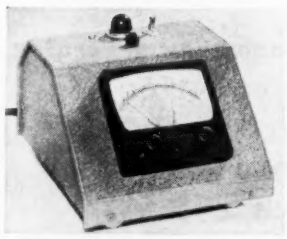
REFRIGERATION THERMOSTATS have low internal operating forces



Extensive array of adjustment and differential settings, end or side screw, and end or side quick-connection terminals are designed into Bulletin 9530 straight range and constant cut-in refrigeration thermostats. They combine low internal operating forces with small size, quiet operation, and low knob torque. Units incorporate a molded drive lever, contact reed, and flipper spring for operating stability. Size is 1 17/32 x 1½ x 1 11/64 in. • **Cutler-Hammer Inc.**, 315 N. 12th St., Milwaukee 1, Wis.

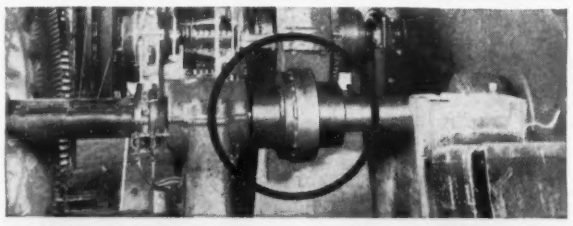
▲ For more details circle NED-279 J1 on enclosed inquiry slip ▲

TEMPERATURE MONITOR offered in various control spans



Excursion of temperature between two preset limits is limited by this fail-safe temperature monitor. When the high or low limit of temperature is reached, the temperature chamber or other equipment in which or with which items are being tested is automatically turned off. It cannot be turned on without a manual reset. The device acts as a pyrometer. Fail-safe unit includes a signal light to indicate operation and an alarm light showing existence of dangerous condition. It can be connected to existing alarm circuits. Initial monitor controls spans as small as 20° F between −100 and 500° F limits. Other units have −100 to 1000° F or higher limits. • **Delta Design, Inc.**, 3163 Adams Ave., San Diego 16, Calif.

▲ For more details circle NED-280 J1 on enclosed inquiry slip ▲



"Most Trouble-Free Heavy-Duty Couplings We've Ever Used"

This is a typical report received from users of Lovejoy Types C and H Heavy-Duty Flexible Couplings . . . and they give many reasons why:

- Easily installed and aligned in minutes, using only a straight edge.
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- Lubrication-free and uncomplicated by mechanisms that require frequent adjustment and maintenance.
- Cushions can be removed without disturbing the line and advanced or reversed on non-reversing loads for double life.
- Metal jaws never wear out because service rated cushions transmit the load.

Lovejoy Heavy-Duty Couplings are available in a full range of bore sizes and types at ratings to 4250 hp. (1200 rpm.). Request recommendations for your application. Ask for Catalog C-61 on company letterhead.

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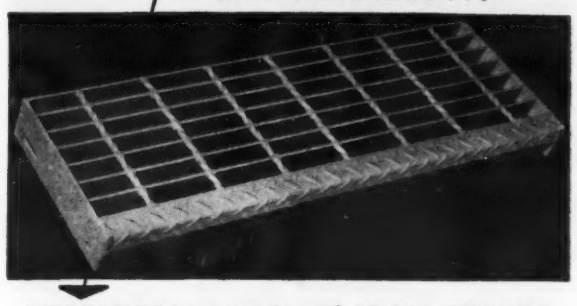
4803 WEST LAKE STREET, CHICAGO 44, ILLINOIS
Telephone EStebrook 9-3010 • Teletype TWX-CG-85

INSURE Safety Underfoot with . . . . STRONG LIGHT-WEIGHT SELF-CLEANING . . .



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Kerrigan's standard tread with Super-Diamond Nosing (illustrated) gives maximum visibility and underfoot safety where needed most.
Increase plant safety with these easily installed treads.
Send now for new, easy-to-use steel grating and tread catalogs.

• ADDRESS: Dep't. N-9

KERRIGAN IRON WORKS COMPANY Nashville, Tennessee

▲ For more details circle NED-281 J1 on enclosed inquiry slip ▲

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SCHRADER PISTOL-GRIP BLOW GUN

Safe . . . comfortable . . . easy to control . . . only 6½ ounces

USE FOR: Fast drying of work, clearing chips from work tables, removing dirt and oil from dies, etc.

FEATURES: Non-pinch trigger action meters air flow from whisper to blast. Lightweight aluminum construction, only 6½ ounces, and compact design, just 5" long with standard nozzle, permits continuous, fatigue-free use on production lines. Non-slip grip for safety and convenient hang-up hook.

CONSTRUCTION: Nozzle quickly interchangeable with other Schrader nozzles. May be replaced with pipe thread extension for hard-to-reach places. All internal parts corrosion-resistant for long life. Supplied with ¼ female NPT inlet. Suggested net price for Schrader pistol grip blow gun $3.20

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Schrader® a division of SCOVILL

A. SCHRADER'S SON
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QUALITY AIR CONTROL PRODUCTS

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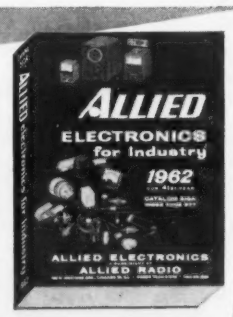

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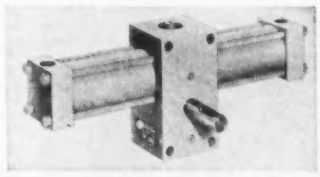
This ball point marker saves considerable time in marking, numbering or coding products made of wood, metal, plastic and glass. It is widely used because: • tube with ball point makes application easy on rough or smooth surfaces • special, fast drying opaque ink withstands heat and weathering • marks will not chip, peel, fade or rub off • 7 different colors are available • 3 different size ball points make fine or broad lines

Write, wire or call for a trial order

JOHN P. NISSEN, JR. Co., *manufacturers*
GLENSIDE, PENNSYLVANIA • CALL TUrner 4-4664

For more details circle **NED-284 J1** on enclosed inquiry slip

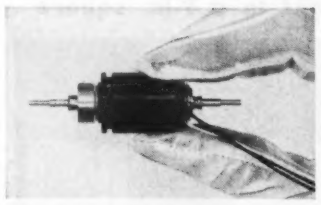
ROTARY ACTUATOR
constant torque reversible type



Two opposing pistons of the Air-Dex air or hydraulic fluid driven rotary actuator move a gear rack over a pinion on a drive shaft for any desired rotation up to 360 degrees. Rotation of shaft can be stopped and reversed at any point in the cycle. Applicable in power steering, gate operation, indexing, tool positioning, and azimuth control, unit is made in three models which develop 50 to 314 lb-in. torque with 100 psi pressure. Drive shaft is keyed. • **Mo-Bar Hydraulics Co.,** Crystal Lake, Ill.

For more details circle **NED-287 J1** on enclosed inquiry slip

SLOW SPEED DRIVE
miniature unit for light duty use

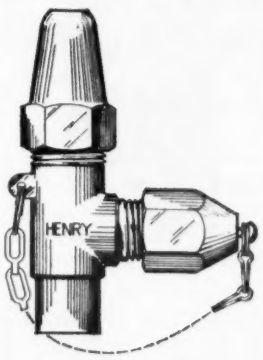


Basically a drive motor with a miniature gearless speed reducer, this slow speed drive has light duty application in timing devices, telemetering systems, potentiometers, slip rings, and sychros. While not a substitute for conventional gearhead motors because of its backlash and limited torque output, it has the advantages of smooth operation, high shock capacity under vibration (20g at 10-2500 cps), and compactness. Reducers are made to order with Size 10, 11, or 12 motors and single or double-ended shaft output. Input-to-output speed ratios available range from 25:1 to 5000:1. Electrical characteristics depend upon requirements. • **Barden Corp.,** 200 Park Ave., Danbury, Conn.

For more details circle **NED-288 J1** on enclosed inquiry slip

CHARGING & PURGING VALVE
for lines containing fluids

Furnished disassembled so that brazing operations will not damage internal parts, this charging and purging valve is rated for maximums of 400 psi and 300° F. It simplifies the charging and purging of refrigerant and other lines containing fluids noncorrosive to brass or steel. A seal cap with gasket is chained to the body. Bottom connections range from ⅜ to ⅝ in. ODM and ¼ to ½ in. ODS. The ¼ and ¾-in. flare side connections permit use of either flexible charging hoses or copper tubing. • **Henry Valve Co.,** 3215 North Ave., Melrose Park, Ill.



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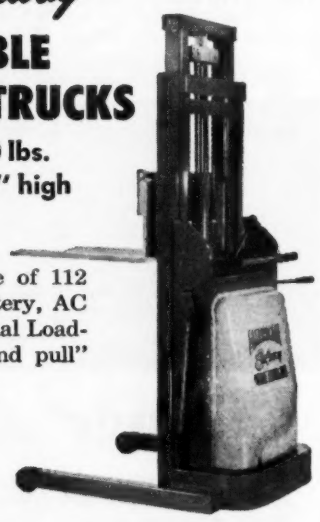
For more details circle **NED-291 J1** on enclosed inquiry slip

AP Safeway
PORTABLE ELEVATING TRUCKS
Raises 2000 lbs. Up To 10' 10" high



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For more details circle **NED-285 J1** on enclosed inquiry slip

NEW Louis Allis SELECT-A-SPEDE® DRIVE

Here's a high-gain, high-performance d-c drive that offers you superior speed and tension control plus unmatched flexibility for changing requirements, and low upkeep.

A twist of the dial gives you stepless speed adjustment from zero to full load in either direction. Regulation stays constant because transistors — unlike tubes — do not deteriorate . . . last 15 or more years.

You slash downtime because the 6" x 6" transistor control panels can be added or removed by your electrician right in your shop, as needed. The printed low-voltage circuits are virtually trouble-free and can be quickly and easily replaced from low-cost stocks.

Select-A-Spede: 5 to 400 hp, and your choice of motor enclosures and other modifications. Write for Bulletin 2001 to The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wis.

LOUIS ALLIS

SA-207

For more details circle **NED-292 J1** on enclosed inquiry slip

GOODYEAR

Steel-armored against punctures!

For the tough jobs use STEEL GUARD—rugged new pneumatic tire with built-in puncture-barrier. Here's why:

1. Heavy steel cables crisscrossed beneath tread make tire virtually punctureproof.
2. Thick, sturdy tread absorbs punishing blows, insures better traction.
3. Pneumatic design means smooth ride for cargo and driver—plus stand-out stability and flotation.

Ask your Goodyear dealer about STEEL GUARD—it stands up even in foundry and brickyard service! Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind
Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle **NED-286 J1** on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind
Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle **NED-290 J1** on enclosed inquiry slip

GOODYEAR

NEW Deep-Tread Pneumatic!

New Cross-Rib Pneumatic Industrial Tires bring you a new premium in performance. You get:

1. The same extra-deep tread design used on Hi-Miler Cross-Ribs—famed for extra mileage and superior traction in highway hauling service.
2. Scientifically toughened tire rubbers — unsurpassed for resistance to cutting—gouging—hard wear.
3. Exclusive 3-T Processed Cord body—triple-tempered for triple-toughness at a precise Tension and Temperature for an exact Time.

Top traction, extra long life—both are yours in the great new Cross-Rib Pneumatic Industrial Tire. Now available in 6.50 x 10 and 7.00 x 12 sizes. See your Goodyear Dealer. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear Truck Tires than on any other kind
Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle **NED-293 J1** on enclosed inquiry slip

BEAM Butane-Propane Carburetion equipment is making unbelievable savings records. Thousands of satisfied users say:

"Beam carburetion has lowered my oil consumption 66%."

"My tractors are running four times longer between overhauls."

"Engines run smoother in our taxi fleet, and no vapor locks."

"Saving money on gas. This alone will pay for Beam installation in less than a year."

WRITE FOR FREE LITERATURE AND NAME OF YOUR NEAREST DISTRIBUTOR

BEAM PRODUCTS MFG. CO.
3040 Rosslyn Street • Los Angeles 65, California
CHapman 5-5791

For more details circle NED-294 J1 on enclosed inquiry slip

Talk in the QUIET environment of a BURGESS-MANNING ACOUSTI·BOOTH placed in the *noisiest* areas

outside sounds HUSH as you walk in . . . no rush to distant shop office for important phone calls

The No. 45 above achieves the utmost in acoustical efficiency. No other booth approaches its sound absorbing performance. Open construction allows full ventilation—no hot or stuffy feeling—no stale odors—no doors to maintain. Available for wall mounting, or free-standing on steel legs.

Write for ACOUSTI-BOOTH catalog today showing No. 45 and many other models.

ARCHITECTURAL PRODUCTS DIVISION
BURGESS-MANNING COMPANY
733 East Park Ave.
Libertyville, Ill.

For more details circle NED-295 J1 on enclosed inquiry slip

NEW RAPISTAN® casters with ADIPRENE* wheel treads

New ADIPRENE treads give Rapistan Casters ADDED TOUGHNESS for lasting service under the most rugged conditions—ADDED RESILIENCY to prevent chipping or gouging—ADDED ROLLABILITY for easy starts and rolling—ADDED RESISTANCE to chemicals, mild acids, etc.—ADDED FLOOR PROTECTION with non-marking treads. Available on rigid and swivel casters with 3½" to 8" wheel diameters and load capacities to 1300 lbs.

WRITE FOR COMPLETE INFORMATION

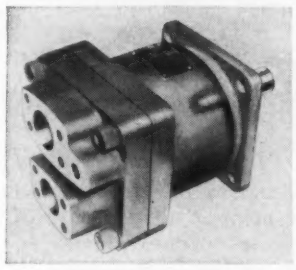
*Reg. Trade Mark DuPont Co.

The RAPIDS-STANDARD CO., Inc.
615 Rapistan Bldg.
Grand Rapids 2, Michigan

Rapistan® CASTERS AND WHEELS

For more details circle NED-296 J1 on enclosed inquiry slip

FLUID MOTORS develop speeds up to 2000 rpm



Five models of MID vane type fluid motors develop maximum torques of 1249, 1719, 1897, 2160, and 2345 lb-in. at 2000-psi pressure. Speeds range to 2000 rpm. Motors start at any temperature. A 4-bolt SAE flange is an integral part of the housing and facilitates mounting, although bracket mounting is optional. All ports are in end cap for simplicity of installation. • **American Brake Shoe Co.**, Denison Engineering Div., 1160 Dublin Rd., Columbus 16, Ohio.

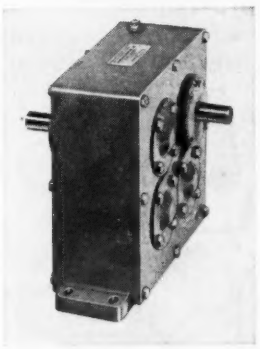
For more details circle NED-297 J1 on enclosed inquiry slip

SQUARE FLUORESCENT LAMPS concentrate light in a 9-in. square

High concentration of light in a 9-in. square is achieved by these two square fluorescent lamp designs. One has a waffle shape on the front; the other is essentially a tube bent back on itself several times. Both types fit into all existing 9-in. recessed incandescent fixtures and require only the addition of an instant starting ballast. Life is 10,000 hr. Light yield is more than twice that of equivalent incandescent wattages, yet is almost shadowless. Lamp is less than 2 in. thick. **El-Tronics, Inc.**, Interlectric Div., 1401 Lexington Ave., Warren, Pa.

For more details circle NED-298 J1 on enclosed inquiry slip

INTERMITTENT MOTION DRIVE offered with 40 or 140-degree dwell



Smooth acceleration and deceleration is provided by the Dwel-Drive, an intermittent motion drive with a maximum working torque of 50 lb-ft. Models with 40 and 140-degree dwell are available for attachment to packaging equipment, indexing tables, metalworking machines, punch presses, and other equipment. Drive eliminates shock loads on single revolution clutches because its output shaft makes one complete revolution for each revolution of the input shaft. Both models are 9¾ in. square and are 4⅜ or 7⅛ in. wide. Shafts protrude 1¾ in. • **Remmele Engineering, Inc.**, 515 University Ave., St. Paul 3, Minn.

For more details circle NED-299 J1 on enclosed inquiry slip

Rapistan® PRESS-VEYORS

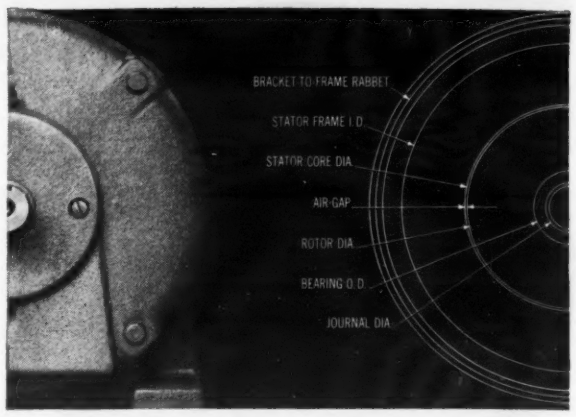
Call on Rapistan for the most efficient equipment to handle any type of mass-produced machine parts, forgings, stampings, light or heavy, any shape, any size, any temperature. Press-Veyors work at steep inclines in close quarters, easily portable, thoroughly dependable. Wide range of Press-Veyor sizes and belt materials. Ideal for press room work and many special problem applications. Magnetic models also available.

Write for illustrated reports of tough handling jobs solved by Rapistan Press-Veyors.

Rapistan® conveying equipment

The RAPIDS-STANDARD CO., Inc.
606 Rapistan Building, Grand Rapids 2, Michigan

For more details circle NED-300 J1 on enclosed inquiry slip



A motor is a series of circles

which must be *accurate* and *concentric* if the motor is to run quietly, smoothly and trouble-free for a long time. Elliott uses highly precise manufacturing methods to assure smooth, dependable, economical operation of all C-W motors.

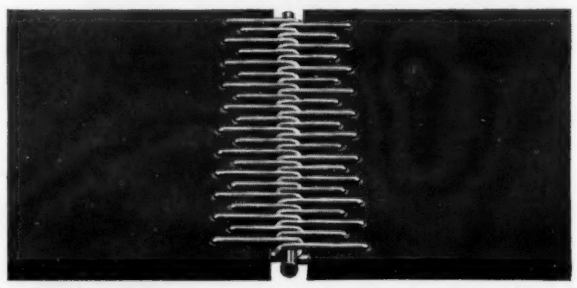
Send for bulletin *The Fine Art of Building Better Motors*, which describes some of the precision operations used in building Elliott C-W integral h.p. motors.

W1-S

ELLIOTT COMPANY
GENERAL OFFICES: JEANNETTE, PENNSYLVANIA
PLANTS: Jeannette and Ridgway, Pa.; Springfield, Ohio

For more details circle NED-301 J1 on enclosed inquiry slip

THE FASTEST WAY TO MAKE ENDS MEET



Clipper HOOKS and LACERS

Slash costly down time for belt, apron or tape lacing by using Clipper belt lacing equipment! Produce secure, durable, flexible joints in minutes without injuring belting. A job performed quickly, efficiently, with top results.

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Clipper BELT LACER COMPANY

976 Front Ave., N. W., Grand Rapids, Michigan
Ask your Industrial Distributor for Clipper Products

For more details circle NED-302 J1 on enclosed inquiry slip

APC® [ADJUSTABLE PRESSURE] conveyor

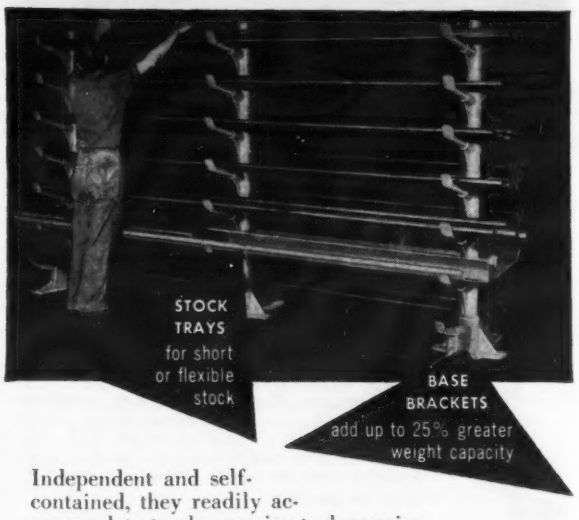
This new catalog shows you how Rapistan's exclusive "pressure sensing" conveyor practically eliminates build-up of line pressure, reduces damage and breakage of containers and materials on wheel and live roller conveyor. Send for your copy today.

The RAPIDS-STANDARD CO., INC.
616 Rapistan Building
Grand Rapids 2, Michigan

Rapistan® CONVEYING EQUIPMENT

For more details circle NED-303 J1 on enclosed inquiry slip

FLEXIBLE STORAGE



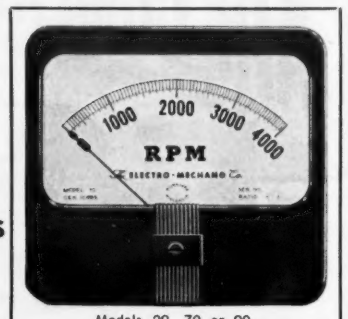
Independent and self-contained, they readily accommodate to changes in stock requirements. Easily relocated; no bolting. You get more into less space; you save time in storing and issuing with Brown Section Racks. Iron and steel construction. Can't burn, wrap, sag. Never wear out. Eliminate safety hazards. Act now! Write for complete specs and prices on models and sizes. Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN QUICK-SERVE RACKS

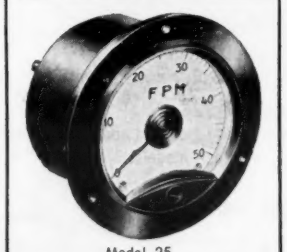
▲ For more details circle NED-304 J1 on enclosed inquiry slip ▲

Panel TACHOMETERS

DESIGNED FOR:
ENGINES
BOATS
CANNING MACHINERY
PAPER MACHINERY
MACHINE TOOLS
OIL WELL EQUIPMENT
LABORATORIES



Models 29, 70 or 90



Model 25

CUSTOM DIALS TO YOUR SPECIFICATIONS

No Delay
7 Styles of Indicators
NO WEARING PARTS

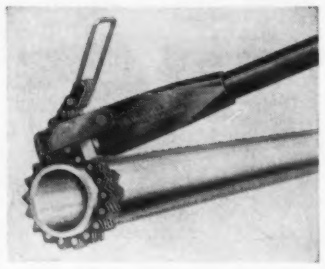
Indicator can be located up to 300′ from sender

Write for Literature and Prices

The ELECTRO-MECHANO CO.
261-1 E. Erie St. Milwaukee 2, Wis.

▲ For more details circle NED-305 J1 on enclosed inquiry slip ▲

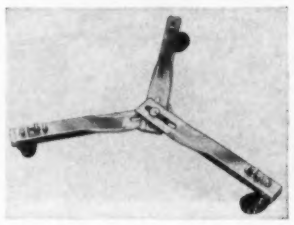
CHAIN STRAP WRENCH
for polished or finished tube, pipe



Holding strength and a smooth velvet-like grip are features of this No. 93 chain strap wrench. It is safely used on soft and thin materials in assembling, adjusting, or removing plastic, brass, or copper pipe; chrome plated tubing; electrical conduit; tar coated pipe; and close nipples. Three sizes are 15, 24, and 38 in. long, with standard 5/8, 7/8, and 1 3/8-in. width chains for diameters from 3/4 to 6 1/2 in. Special chains for capacities to 14 in. can be furnished. • **Billings & Spencer Co.**, 1 Laurel St., Hartford 1, Conn.

▲ For more details circle NED-307 J1 on enclosed inquiry slip ▲

DRUM & BARREL BASE
caster-equipped for mobility



Any 55-gal drum or barrel can be converted into a mobile container with 450-lb capacity by attachment of the Roll-A-Can caster-equipped base. Weighing only 10 lb, it is zinc coated and has three ball bearing swivel casters with rubber or plastic wheels. Base is adjustable to fit any 16 1/2 to 24 1/2-in. diameter drum. It attaches securely to the container, and its wide stance prevents tipping. • **Meta Corp.**, 31 E. Sylvania Ave., Toledo, Ohio.

▲ For more details circle NED-308 J1 on enclosed inquiry slip ▲

CALIBRATION INDICATOR
for tension and compression loads

Weight, force, and thrust are indicated by this portable instrument for calibration service with either tension or compression loads. Type 65 automatic null balance calibration indicator utilizes digital readout (expressed in pounds) to eliminate reading errors. When used with a B-L-H calibration load cell, the indicator readings are compared against those of the working system to provide rapid calibration. Type 65 and 65A units have system accuracies of ±0.1 per cent of reading down to one-sixth of full scale. Instrument has six intervals with a full scale range of 2.4 mv per volt. Response speed is about 12 sec per interval. Size is 15 x 16 1/2 x 6 in. and weight is 23 lb. • **Baldwin-Lima-Hamilton Corp.**, Electronics & Instrumentation Div., 42 Fourth Ave., Waltham 54, Mass.

▲ For more details circle NED-309 J1 on enclosed inquiry slip ▲

Don't throw maintenance money away!

NoDrip TAPE PERMANENTLY PROTECTS AGAINST CONDENSATION AND RUST AT LOWEST COST.

Any maintenance man can check this. Handy 16′ rolls of 1/4″ thick NODRIP TAPE fits any size pipe or fitting. Never absorbs moisture. *Permanently* insulates against damaging pipe sweating — even around unions, tees, angles and valves.

NoDrip PLASTIC COATING
Another fine Mortell product. Use on metals, concrete, brick, tile, plaster surfaces. Apply by brush, trowel or spray to large pipes, tanks, walls, ceilings, air ducts, to eliminate sweating. 1 or 5 gal. cans or 55 gal. drums.
At all leading hardware, mill supply and plumbing jobbers. For full information and technical handbook, write

Mortell COMPANY
526 Burch Street, Kankakee, Ill.

▲ For more details circle NED-310 J1 on enclosed inquiry slip ▲

glass skylight troubles?

INSTALL WASCO SKYDOMES!

This half-century old warehouse was plagued with leaky, broken glass skylights requiring frequent repair and replacement. Constant film of dirt and grime blocked out daylight.

Maintenance costs disappeared! Weather-proof, shatter-proof, all-acrylic Wasco Skydomes shun dirt, admit more daylight. Built-in condensation drainage channel assures leakproof installation.

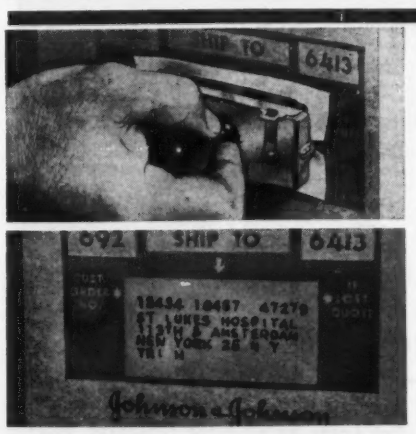
Glare-free Wasco daylighting opens up dim interior areas, cuts electricity costs, permits fuller use of floor space. Old skylights need not always be ripped out, can often be covered with Wasco Skydomes. Special mountings for easy, inexpensive installation. Wide variety of sizes, shapes, densities.

FOR INFORMATION, contact Wasco. We'll gladly furnish the name of a qualified applications engineer.

WASCO SKYDOMES
WASCO PRODUCTS DEPARTMENT
AMERICAN CYANAMID COMPANY
5 BAY STATE RD., CAMBRIDGE 38, MASS.

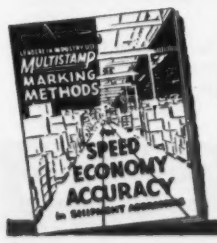
▲ For more details circle NED-311 J1 on enclosed inquiry slip ▲

Multistamp® Stencil Addressing System
Quickest Way for Volume Shipping



With "Ship To" frame pre-printed by carton maker, shipping clerk uses Multistamp Duplicator to address up to 1000 pieces of the same shipment with the same low-cost stencil . . identically, accurately, quickly, easily.

Using Multistamp FORM-CUT stencil, printing the form and fill-in data at the same time is an easy, one man—one hand—operation. Your form is custom die-cut in the stencils . . you fill them in with ball point pen or typewriter.



VOLUME-PAK Stencils
both plain and FORM-CUT save big money for quantity users. One-day service on repeat FORM-CUT stencil orders . . less than 10 days on new orders.

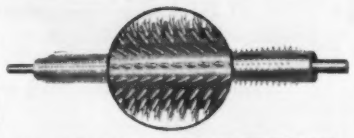
Write Today for your Free copy of the illustrated new how-to- (and why) book about the MULTISTAMP Marking Methods.

MULTISTAMP®
STENCIL DUPLICATOR
THE MULTISTAMP CO. NORFOLK, VA.

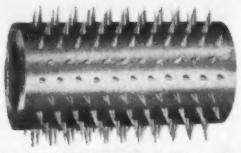
▲ For more details circle NED-306 J1 on enclosed inquiry slip ▲

PINNED

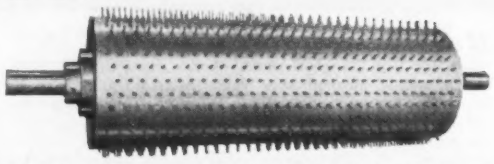
CYLINDERS-TUBES ROLLS-SHAFTS



ROLL WITH SHARP POINTS FOR PERFORATING.



TUBE WITH MANY SHARP POINTS MADE TO SLIP OVER SHAFTING, USED TO PERFORATE, SHRED, TEAR, ETC.



LARGE DIA. CYLINDER WITH MANY POINTS FOR SCRATCHING, TEARING, ETC.

For:
- Crushing
- Picking
- Perforating
- Pricking
- Conveying
- Tearing
- Mixing
- Shredding and many other applications

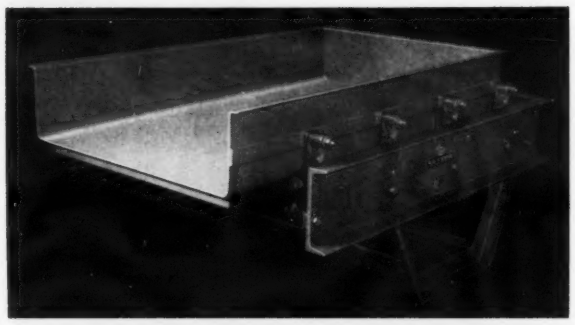
Send for Pin Roll and Cylinder Brochure B-22

OUR PRODUCTS ARE MADE TO SUIT YOUR EXACT REQUIREMENTS.

ROBERT A. MAIN & SONS INC.

Main & New Sts., Wyckoff, N. J. Phone: TWinbrook 1-2010

For more details circle NED-312 J1 on enclosed inquiry slip



Save Space, Installation and Maintenance Costs with

AJAX VIBRATING FEEDERS

● Designed for short carries between machines, conveyors and processes, Ajax Vibrating Feeders combine mechanical simplicity, absence of complicated electrical systems and low cost. They are easy to install as part of a material handling system. They can be designed into complete processing units. Standard models 3′ to 10′ lengths and widths from 6″ to 36″ with drive unit above, below or at end.

Write for information.

Conveyor Division
AJAX FLEXIBLE COUPLING CO. INC.
142 Portage Road Westfield, N. Y.

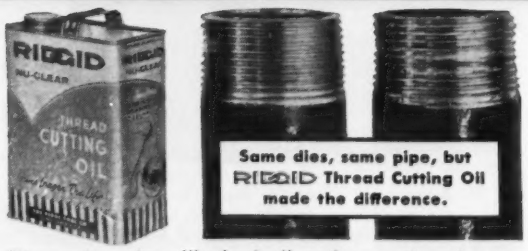
Incorporated 1920 *Representatives in Principal Cities*

For more details circle NED-313 J1 on enclosed inquiry slip

TESTS PROVE RIDGID®

Thread Cutting Oil

Gives you better threads faster ...lengthens die life, too!



Time after time "bad pipe" and torn thread complaints result from poor oil. Here's proof that you need special-purpose RIDGID Thread Cutting Oil, an oil that cools, speeds metal removal, produces a smooth finish and prevents chips from welding to your dies. What's more, it's completely antiseptic . . no danger of irritation or infection.

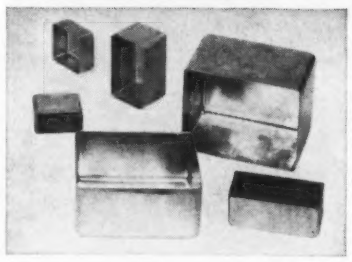
Available in Dark or Nu-Clear, RIDGID Thread Cutting Oil is tops for *all* metal cutting. Get an extra supply for your lathe, drill press and other metal cutting equipment.

Call your Supply House!

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-314 J1 on enclosed inquiry slip

ALUMINUM BOXES & COVERS
32 deep drawn sizes added to line



Instrument and electronic component housings, and missile and aircraft equipment packaging are uses for these deep drawn aluminum boxes with flush-fitting covers. Thirty-two new sizes are available from stock without tooling charges. Sizes added range from 2½ x 2 in. to 28¼ x 28¼ in. in various alloys. Accessorizing services to adapt any box or cover to the customer's application are offered. ● Zero Mfg. Co., 1121 Chestnut St., Burbank, Calif.

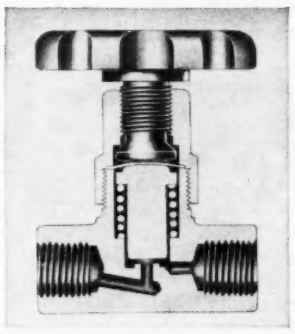
For more details circle NED-315 J1 on enclosed inquiry slip

BAG & CARTON PALLETIZER
operated by one man

Bags and cartons are palletized in any pattern at a speed of 20 units per minute by the Flex-Bend one-man push-button operated palletizer. It consists of a swivel stacker and a powered indexing pallet table which the operator rotates by pushbuttons. No lifting or turning of the products being handled is required. ● R. T. Sheehan Co., Box 345, Plymouth, Mich.

For more details circle NED-316 J1 on enclosed inquiry slip

CORROSIVE GAS VALVES
available in several metals



Corrosive gas instrumentation, control, and other processing lines are applications for two series of valves with small internal volumes to minimize loss of contents when disconnected. Type 5939 has a positive metallic diaphragm seal for pressure-tight operation from 2500 psi to a vacuum of 0.05 micron over a −60 to 400° F range. Metering Type 5940 valve, with stem threads isolated from line contents by Teflon packing, is designed for operation between 2500 psi and 0.1 micron and −60 and 400° F. Valves are stocked in brass, Type 303 stainless steel, and aluminum silicon bronze in sizes up to 1½ in. Panel mounting features are incorporated when needed. ● Superior Valve & Fittings Co., 1509 W. Liberty Ave., Pittsburgh, Pa.

For more details circle NED-317 J1 on enclosed inquiry slip

RIDGID® 65R TC RATCHET THREADER

With New True-Centering Workholder

Gives Better 1″ to 2″ Threads Faster 4 Ways!

HERE'S WHY: One set of dies threads 1″, 1¼″, 1½″, and 2″ pipe and conduit . . . no dies to change • Fast-to-set, True-Centering Workholder centers dies for perfect threads every time • Easy adjustment for accurate "drip" threads • It's jam-proof . . . automatic kick-out — prevents jamming. RIDGID 65-RC with Cam-Type Workholder also available.

Call your Supply House!

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-318 J1 on enclosed inquiry slip

NEW **AIRETOOL** PNEUMATIC SCALER

scales • peens
beads • drills

removes weld splatter, rust and paint

Airetool's new Model SH-1-AP Scaler features rugged construction; fast, versatile operation. Compact . . . 11 inches long; lightweight . . . 4 pounds. Push throttle lets operator control number of blows from a few to 4600 per minute or rotate tool and star drill simultaneously in drilling. Special retainer holds ½″ notched shank chisels in position.

Get free in-plant demonstrations of this and other Airetool pneumatic tools . . . screwdrivers, drills, nutsetters, grinders . . . by calling your Airetool representative. Or, write direct.

Representatives in principal cities of the free world.

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

For more details circle NED-319 J1 on enclosed inquiry slip

AIR COMPRESSORS

Kellogg-American compressors deliver more USABLE FREE AIR per kilowatt hour.

Superior engineering, workmanship and rugged construction assure LONGER trouble-free life.

Over 250 different models from ⅓ thru 20 HP, including bare compressors, base-plate mounted and tank-mounted units. Available in single and two-stage models.

FOR DETAILED SPECIFICATIONS, WRITE TO:

Kellogg-American

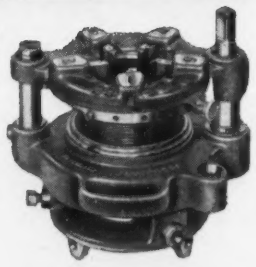
DIVISION SCAIFE COMPANY • PITTSBURGH 35, PA.

For more details circle NED-320 J1 on enclosed inquiry slip

New RIDGID No. 141 GEARED THREADER

For 2½″, 3″, 3½″, 4″ Pipe and Conduit

ONE SET OF DIES
NEW CAM-ACTION WORKHOLDER
JAM-PROOF



Pat. Appl'd. For.

Save Time . . . Cut Costs on all large threading jobs!

Only 1 Set of High-Speed Dies . . . No extra die sets to change or lose! Die size selector plate sets quickly . . . locks at desired size. Easy adjustment for tapered, straight, over or under size threads.

Jam-Proof . . . Drive pinion kicks out automatically. Safe threading by hand or power . . . die head can't jam.

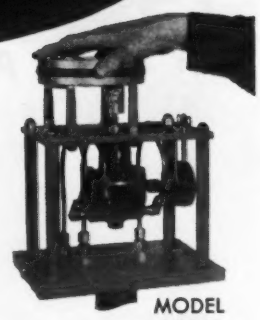
New Fast-Action, Cam-Type Workholder sets to size by quick turn of cam plate . . . set screw centers and holds pipe for perfect threads every time. Adjustable for drip threads.

Call your Supply House!

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-321 J1 on enclosed inquiry slip

Arcco-Anubis
CONTINUOUS GAS SAMPLER



MODEL 130-7

FOR OBTAINING REPRESENTATIVE GAS SAMPLES TO DETERMINE CHEMICAL AND PHYSICAL PROPERTIES OF GAS.

For obtaining more accurate gas sampling, this proven Arcco-Anubis instrument is unexcelled. It replaces older, inadequate methods for spot sampling. This sampler will over a period of seven days accumulate at a constant rate a sample of gas to a final pressure at or near 130 psig from a sample source, the minimum pressure of which is not less than 150 psig.

Models for many other pressure ranges and sampling periods now are available. Send for Bulletin 112-R2

AVAILABLE FOR EARLY DELIVERY

ARCCO INSTRUMENT COMPANY, INC.
7144 EAST CONDOR STREET · LOS ANGELES 22, CALIF.
MANUFACTURERS OF PRECISION INSTRUMENTS

▲ For more details circle NED-322 J1 on enclosed inquiry slip ▲

New Stock Molded Knobs

AVAILABLE WITH OR WITHOUT SKIRTS

4 Standard Sizes

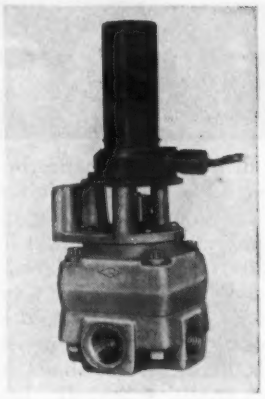
Meet MIL-P-14 Specs

MODEL RB-1250-SK Illustrated

Molded of thermosetting phenolic or urea materials. Available in 4 standard sizes with nickel plated brass inserts for ¼" or ⅛" diameter shafts. Aluminum decorative inserts or skirts, etched and filled as desired . . . various anodized finishes, plain or radially spun. Write for new catalog illustrating Rogan's complete line of stock molded knobs.

ROGAN BROTHERS, Inc.
8001 N. MONTICELLO • SKOKIE, ILL.
Specializing In Stock Molded Knobs Since 1939

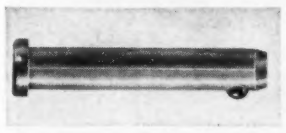
ROTARY ELECTRIC ACTUATOR
for up to 1-in. selector valves



Remote control of Type B Lo-torq selector valves up to 1-in. size is achieved with this rotary electric actuator without modification. Unit drives valve through a planetary gear train in a 90-degree sweep, with a stop at 45 degrees in either direction. Operating time is ¾ sec for 45 degrees; 1½ sec for a 90-degree movement. Motor and valve can be disengaged for manual override. Motor is equipped with an automatically resetting thermal overload cutout. Designed for 50 per cent intermittent duty, actuator operates on 110 v ac and draws 0.7 amp. Many variables are optional. • **Republic Mfg. Co.**, 15655 Brookpark Rd., Cleveland 35, Ohio.

▲ For more details circle NED-324 J1 on enclosed inquiry slip ▲

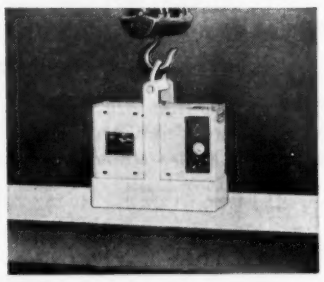
CLEVIS PIN
self-locking for blind assembly



Main body of the Leitzke cotterless clevis pin is cadmium plated steel and the working parts are stainless steel. Self-locking unit is made in a variety of sizes with one or several locking devices as required. Suited for "blind" assembly or for repeated connections, it is also produced to specifications. • **Rein Leitzke**, Dept. CC, Hustisford, Wis.

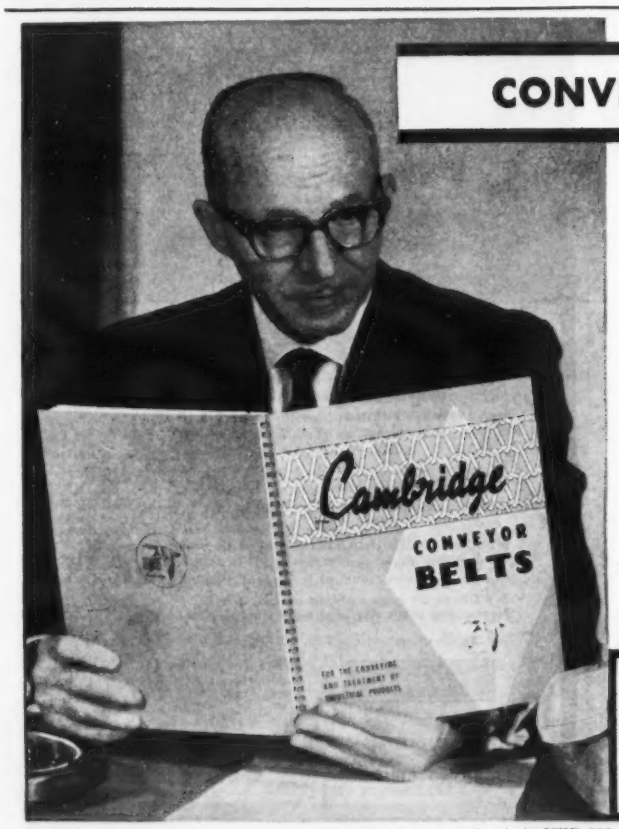
▲ For more details circle NED-325 J1 on enclosed inquiry slip ▲

BATTERY-OPERATED MAGNET
2500 and 5000-lb lifting capacities



Length of haul is not restricted by electric cords, as the Shop-Lifter magnet is battery operated and self-contained. It is designed for indoor or outdoor use on lift trucks or hoists in machine shops, mills, factories, and warehouses. Compact unit is made in 2500 and 5000-lb lifting capacities weighing 150 and 230 lb, respectively, including battery. Both sizes are powered by 12-v wet cell type automotive batteries. An ac-dc power pack with self-contained rectifier for operation from any 110-v ac source is optional, as is a remote control feature. A trickle charger and control panel with on-off switch and a charging indicator are built in. Batteries last from five to twelve 8-hr shifts without recharging. • **Ohio Electric Mfg. Co.**, Ohio Magnetics Div., 5400 Dunham Rd., Maple Heights, Ohio.

▲ For more details circle NED-326 J1 on enclosed inquiry slip ▲



CONVEYOR BELT PROBLEMS?

Get comprehensive information fast . . . send for FREE CAMBRIDGE METAL-MESH BELT CATALOG

This complete, 130-page reference manual contains illustrations and descriptions of typical installations, industry flow sheets, detailed discussions of metals and alloys, belt weaves, constructional features, conveyor design, belt drives, guides and supports, and belt information. Write direct or call your Cambridge Field Engineer. He's listed in the Yellow Pages under "Belting, Mechanical"

The Cambridge Wire Cloth Co.
Department C • Cambridge 9, Md.

Manufacturers of Metal-Mesh Conveyor Belts, Flat Wire Conveyor Belts, Wire Cloth, Wire Cloth Fabrications, Gripper® Metal-Mesh Slings

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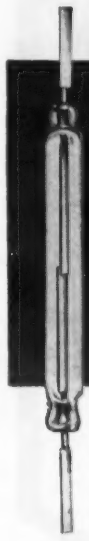


RELIABILITY • LONG LIFE • HIGH SPEED

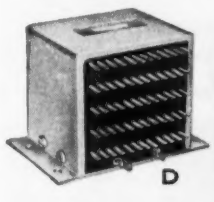
CLAREED
Sealed Contact Reed Relays

CLAREED sealed contact reed relays are a revolutionary improvement in relay design. They are simple in construction, sealed from environmental conditions, provide reliability and high speed operation over an exceedingly long life. Capable of handling loads of from 15 volt-amperes down to micro-amperes, these relays are packaged in a wide range of designs.

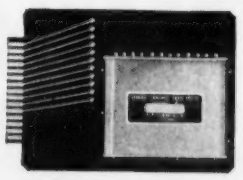
Shown are (A) metal enclosed modules for mounting on your printed circuit board, (B) single or multiple-capsule assemblies for use as conventional plug-in relays, (C) multiple-packaged switch capsules for attachment to printed circuit boards, and (D) multi-capsule relay available with from 12 to 144 CLAREED capsules.

A

B



D



C

IMMEDIATE DELIVERY AT FACTORY PRICES

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Needham 92, Mass.
Tel: Hillcrest 4-4500

Avnet Electronics Corp.
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Electronic Wholesalers, Inc.
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Tel: PA 3-1441

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Miami 32, Florida
Tel: FR 7-2511

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Srepco, Inc.
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Tel: Baldwin 6-2546

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Tel: Superior 1-9411

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Engineering Supply Co.
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Harrison Equipment Co., Inc.
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Tel: Capitol 4-9131

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Tel: Hemlock 7-0370

PACIFIC COAST

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Bell Electronic Corporation
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Bell Electronic Corporation
1070 O'Brien Drive
Menlo Park, California
Tel: Davenport 3-9431

Bell Electronic Corporation
8072 Engineers Road
San Diego 12, California
Tel: Browning 8-4350

C.P. Clare & Co., 3101 Pratt Blvd., Chicago 45, Illinois

C. P. CLARE & CO.
Relays and Related Control Components

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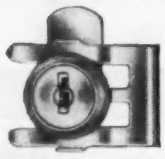


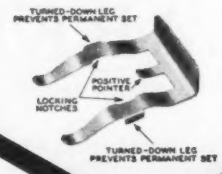
Clip in place on Corbin C15258 disc tumbler cam lock. Also available for other cylinder cam and desk locks.

CORBIN

CYLINDER CAM LOCKS WITH *Exclusive* CORBIN CLIP

save time!...cut costs!...never loosen!

Like no other fastening device! Tempered spring steel. Patented design holds Clip securely in place—notches on clip engage notches on cylinder. Specially-designed legs of clip absolutely prevent a permanent set. No time-consuming, fumbling assembly operations. Just snap on 14, 16, 18, 20 and 22 gauge metal, also for other gauge metal on special order. Write for complete details.

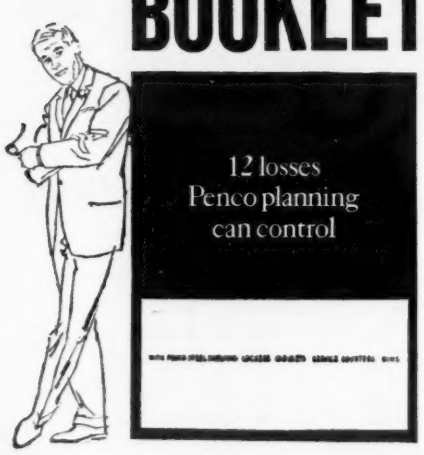


CORBIN

CORBIN CABINET LOCK DIVISION
THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONNECTICUT

▲ For more details circle NED-328 J1 on enclosed inquiry slip ▲

NEW PENCO BOOKLET



How to control 12 costly plant losses with PENCO-PLANNED shelving, lockers, specialties...

- ☐ Waste Space
- ☐ Cleaning Costs
- ☐ Stealing
- ☐ Low Employee Morale
- ☐ Poor Inventory Control
- ☐ Production Bottlenecks
- ☐ Slow Order Filling
- ☐ Excessive Damage
- ☐ Shipping Bottlenecks
- ☐ High Insurance Costs
- ☐ Accidents
- ☐ Excessive Handling Costs

A brand-new, 16-page, illustrated thought-starter that gives proven guidance, informative facts, on how to use Penco storage equipment to reduce common plant losses.

If your company is considering new *shelving, lockers, cabinets, counters,* or *metal storage specialties,* read this Penco Planning Booklet before you buy! Read how to control up to 12 major drains on plant efficiency, profitability.

Request your copy now . . . free on request. Address Dept. F.

ALAN WOOD STEEL COMPANY
PENCO DIVISION
Oaks, Pennsylvania

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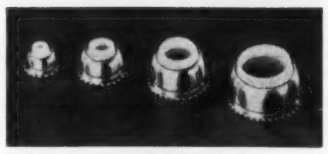
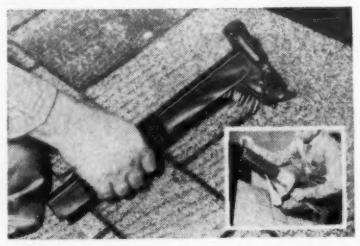
PRESS-FIT DELRIN BEARINGS mount in 0.040-in. or heavier metal



Self-aligning to within 5-degree angularity, Pressbearings are designed for mounting in 0.040-in. or heavier sheet metal by a self-clinching retainer. Bearings are of DuPont Delrin and retainers are steel, aluminum, or stainless steel. Shaft sizes from 1/32 to 1/4 in. are accommodated by the bearing assemblies which center in a prepared hole, clinch securely, and resist torque. They may be removed by a press and a new bearing installed. Applications include slow speed, lightly driven shafts; mountings for small gears, pulleys, rollers, and dials; bearings for linear motion shafts; and hanger bearings for flexible shafts. • **Spyraflo, Inc.,** Drawer E, Miami 64, Fla.

▲ For more details circle NED-330 J1 on enclosed inquiry slip ▲

AUTOMATIC HAMMER rapidly drives 7/8 to 1 1/4-in. nails

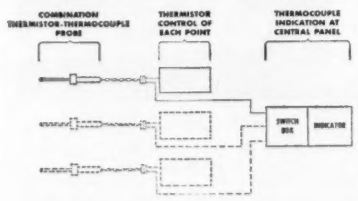


Impact of each blow of the Nail-Fast automatic hammer not only drives a nail but also feeds another nail under head for the next blow. User's other hand is free for holding materials being nailed. Hammer drives ordinary galvanized or aluminum roofing nails from 7/8 to 1 1/4 in. long as rapidly as it can be swung. Up to 60 nails can be driven before reloading. Applications include driving nails in roofing, metal lath, gutter, and sheet materials. Price is $79.95. • **Applied Design Co.,** 1917 Central Ave. N. E., Minneapolis 18, Minn.

▲ For more details circle NED-331 J1 on enclosed inquiry slip ▲

TEMPERATURE CONTROL system has multipoint indication

Thermistors that are sensitive to temperature change and do not require expensive circuitry, and thermocouples that are stable over extended periods are combined in the A+540 continuous process, transistorized temperature control system. It makes possible control at various locations with indications at a central point. Each probe contains both a thermistor sensor and a thermocouple. Multipoint recording can be provided. Thermistor and thermocouple circuits operate independently and double check each other. • **Atkins Technical Inc.,** 1276 W. Third St., Cleveland 13, Ohio.



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PREVENTS RUST AND CORROSION

Cabot's *Flexiblac*®

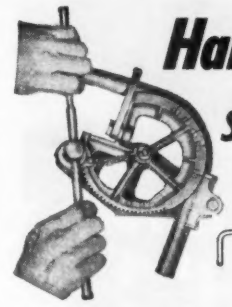
FOR IRON, STEEL, AND ALL OTHER METAL SURFACES — 1/4 THE PRICE OF RED LEAD

The corrosion of exposed metal, an expensive and unsightly problem in industrial maintenance, is easily overcome with Cabot's Flexiblac, a tried and proven waterproof paint that applies with brush, spray or roller. Elastic, gloss black Flexiblac is non-toxic, resists heat up to 350°F, will not crack or scale, does not conduct electricity, and resists acids, alkalies, and chemical fumes. Flexiblac, with a wide range of applications, offers fast turnover and immediate profits for the dealer.

Write for prices and full information.

Samuel Cabot, Inc
932 South Terminal Trust Bldg., Boston 10, Mass.

▲ For more details circle NED-333 J1 on enclosed inquiry slip ▲



Handy Tube Bender

Smoothly Bends ANY Pipe or Tubing

3/8" to 1 1/8" O. D.

Just a twist of the wrist assures perfect, even bends . . . right-angle, any angle, U and offset—every time. Eliminate need for els. No more guesses—no kinks! Save enough time, labor and money on ONE job to pay for your Handy Tube Bender.

See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.
480 N. Willow Rd. • Evansville, Ind.

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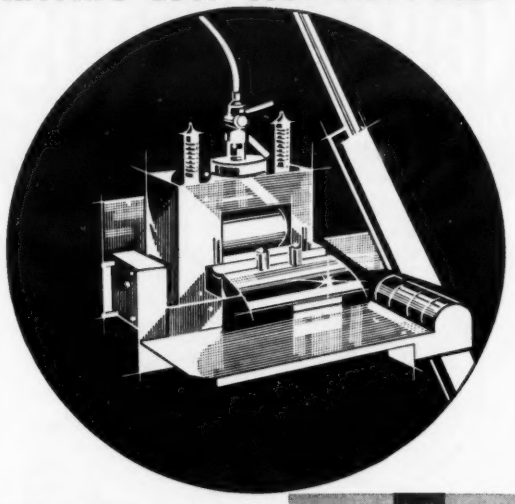
AUTOMATE YOUR PRESS-RITE WITH HAVIR'S LOW COST AUTO-FEED



Havir's Auto-Feed pays for itself in reduced operator time and far faster stamping production. One press operator can run several Auto-Feed equipped presses.
Saves materials and makes more accurate stampings too. For all the facts in detail, write . . .

HAVIR MANUFACTURING CO.
442 Cleveland Avenue
St. Paul, Minnesota

HAVIR

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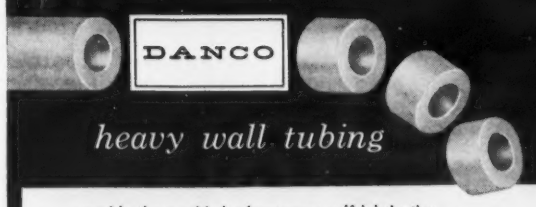
instant bearings from



heavy wall tubing

provide these added advantages: self-lubricating, tough, long-wearing. Practically frictionless, and non-corrosive, DANCO Heavy Wall Tubing is held to close tolerances. Rely on dependable DANCO for Nylon rod, strip, pressure and heavy wall tubing.

HEAVY WALL TUBING: Sizes include: O.D. from 1/2" to 2"; I.D. from 3/8" to 1 1/2". Tolerances: I.D. +0 0, —.030; O.D. +.030, —0.0. Nylon used is Type 6 or 66.

ROD: Centerless ground. 1/4" to 2". Stock length: 10 ft. Other lengths available on request.

STRIP: Thickness: .015", .020", .025" .031", .040", .050", .062", .093", .125". Width: 1/4" to 6".

NYLON-COATED INDUSTRIAL CABLE in a wide variety of sizes for many applications such as belt lacing, drawing board cables, manual controls, artificial limbs, etc.

See Danco on your molding problems in Nylon and other engineering thermoplastics.

DANCO

Write for new, complete literature. Free.

THE DANIELSON MANUFACTURING COMPANY
A Subsidiary of Nicholson File Company
KING STREET, DANIELSON, CONNECTICUT

▲ For more details circle NED-336 J1 on enclosed inquiry slip ▲

new 30 ampere Variac AUTOTRANSFORMERS

With all of the exclusive design features of the comprehensive VARIAC autotransformer line, the new Type W30 models are now announced.

They are available in units or ganged assemblies with ratings from 4.32 kva to 27 kva, cased or uncased, with or without ball bearings and for either manual or motor drive.

All have exclusive Duratrak brush-track coating for extra-long life, simple maintenance and momentary heavy-overload capability.

The Type W30 (illustrated) has a maximum rating of 36 amperes and a rated current of 30 amperes. On a 120-volt line it will supply any output voltage from zero to 140 volts. Price: $75.00.

Write for the VARIAC BULLETIN for complete data on over 100 models of the original continuously-adjustable autotransformer.

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38 8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA 1186 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO In CANADA: 99 Floral Parkway TORONTO 15

For more details circle NED-337 J1 on enclosed inquiry slip

Newest, greatest advance in finishing!

RAMPE VI-BRADER®
CONTROLLED ORBITAL FINISHING MACHINE®

- **Speed** is faster than any similar finisher known.
- **Permits** rapid stock removal, or precise surface finishing, at selectable speed.
- **Handles** any size load up to 1¼ cu. ft.

Think how many ways you can do a better, faster job with this revolutionary vibratory-type finisher! Unique **controlled orbit** performs delicate finishing work impossible with any other type machine. Variable speed drive 950 to 1800 rpm. Uses Rampe R-1 or R-2 Rollabrader barrels, or conventional ⅝, ¾ or 1¼ cu. ft. tubs.

For complete details, write today. ®Rampe Mfg. Co.

RAMPE MFG. CO.
14915 WOODWORTH AVE., CLEVELAND 10, OHIO

For more details circle NED-338 J1 on enclosed inquiry slip

A type for every purpose

Glass-clear transparency, flexibility and resistance to corrosion make Tygon Tubing the ideal piping medium for a wide range of applications . . . handling fluids, semi-solids, gases, vacuums or pressures.

Where pressure is a factor, outer braid reinforced Tygon Tubing will handle up to 300 psi. Heavy walled Tygon will handle full vacuums.

Tygon Tubing is resistant to acids, alkalies, oils, water and alcohol. It is non-toxic, non-contaminating, will handle foods, drugs and other high purity products. Standard sizes range from 1/16" i.d. to 4" i.d.

WRITE TODAY FOR BULLETIN T-100

Tygon is a registered Trade-Mark of
U. S. STONEWARE
AKRON 9, OHIO
204E-3

For more details circle NED-339 J1 on enclosed inquiry slip

ELECTRIC TYPEWRITER
single sphere-shaped element types all characters, symbols

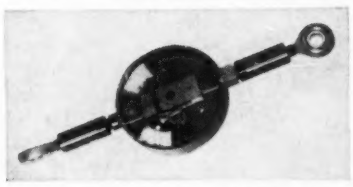
All alphabetic characters, numbers, and punctuation symbols are typed by a single sphere-shaped element on the IBM Selectric electric typewriter. Conventional

type bars and movable carriage are eliminated, but standard keyboard is retained. The spherical element moves from left to right on its carrier, turning and tilting at high speed to select the desired symbol typed. If two characters are struck nearly simultaneously, only the first is typed, while the system automatically stores the other for a split second, then types it immediately. This selective stroke storage increases typist's speed and accuracy.

The sphere-shaped element can be removed and replaced with any one of six elements with different type faces. To change ribbons, typist lifts ribbon cartridge off carrier and snaps a new cartridge into place without ever touching the ribbon itself. Ribbons in eight colors are available. Small model Selectric accommodates 11 in. wide paper, whereas larger model takes paper to 15½ in. They are priced at $395 and $445, respectively. • **International Business Machines Corp.**, Electric Typewriter Div., 545 Madison Ave., New York 22, N. Y.

For more details circle NED-340 J1 on enclosed inquiry slip

FORCE MEASURING TRANSDUCERS
rated from 1000 to 100,000 lb



Both tension and compression loads are measured by force measuring transducers or load cells offered in seven models with full load ratings of 1000, 2000, 5000, 10,000, 20,000, 50,000, and 100,000 lb. Units rated as low as 100 lb, or as high as 500,000 lb can be ordered. Sensing is performed by resistance wire-type high-temperature weldable strain gages in a bridge configuration within a ring. They withstand as much as 50 per cent overloading. A safety link can be added for larger overload. High thermal stability enables units to be used in a −300 to 750° F range. Total error from all causes is less than ±2 per cent over a −65 to 600° F range. • **Microdot Inc.**, 220 Pasadena Ave., South Pasadena, Calif.

For more details circle NED-341 J1 on enclosed inquiry slip

NOW BEARS THIS FAMOUS SEAL

LISTED UNDER REEXAMINATION SERVICE UL UNDERWRITERS' LABORATORIES, INC.

monoxor®
CARBON MONOXIDE DETECTOR SET

For Safeguarding Human Life wherever CO Hazard may exist

For "Safety Testing" of Gas Burning Appliances

$25.20 FACTORY NET
Includes Sampler CXD, 24 Tubes CC-352, 6 Tube Caps, & Pocket Case

SHOWS CO HAZARD DIRECTLY

- ✓ Requires no color matching or reference to comparator scale
- ✓ Fast and easy to use. Test requires only 10 seconds
- ✓ Listed by Underwriters' Laboratories, Inc.

M-30A

BACHARACH INDUSTRIAL INSTRUMENT CO., 200 N. BRADDOCK AVE., PITTSBURGH 8, PA.
Send me a copy of your MONOXOR Detector Leaflet 859D

NAME ..... POSITION .....
COMPANY .....
STREET .....
CITY AND STATE .....

For more details circle NED-342 J1 on enclosed inquiry slip

50% greater range
for Proximity Sensing Heads

Actuated by non-magnetic and magnetic metals with Electro's exclusive "no-touch" circuit for detection or controlling electrical or mechanical devices in production or processing operations.

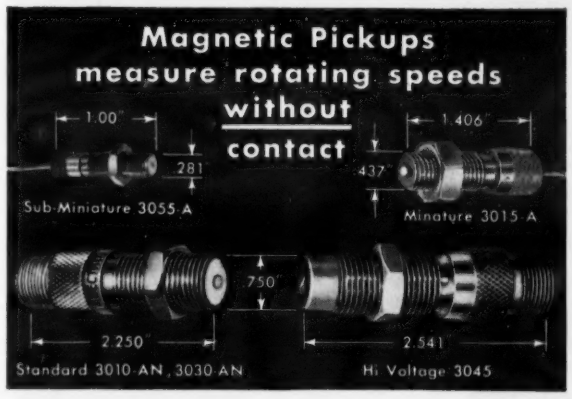
Up to 60′ of cable can be used with any standard Electro sensing head. Double voltage regulation insures proximity switch stability. The 4955D Control Amplifier is available with or without JIC enclosure.

1961 — Our 25th Year

Write for Bulletin 4955-361 and Detailed Catalog EDPS-80

Electro CHICAGO
ELECTRO PRODUCTS LABORATORIES
4501-X Ravenswood • Chicago 40, Illinois
Canada: Atlas Instrument, Ltd., Toronto
1283

For more details circle NED-343 J1 on enclosed inquiry slip



Solve speed/control problems

These standard magnetic pickups generate voltage and power without the aid of additional power sources. They actuate electronic or electrical circuitry without amplification in most cases. No extra bearings, mechanical linkages, etc., are required.

A wide variety of stock models are available for immediate delivery, and unlimited variations can be engineered on special order.

1961 — Our 25th Year

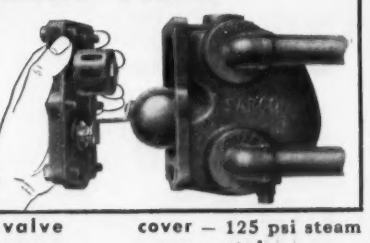
CATALOG CMP-50 shows varied applications, characteristics and easy selection guide . . . write today!

Electro CHICAGO
ELECTRO PRODUCTS LABORATORIES
4501-X Ravenswood • Chicago 40, Illinois
Canada: Atlas Instrument, Ltd., Toronto

For more details circle NED-344 J1 on enclosed inquiry slip

SIMPLE—DURABLE STEAM TRAP

Float-Thermostatic Type FT



7 WAYS EXCELLENT

1. **Stainless steel valve mechanism** — valve arm, bracket, hardened seat, ball head.
2. **Ball bearing valve head** — stainless steel. Accuracy and hardness insure tight shut-off, long life.
3. **Heavy-wall copper float** — reinforced at lever connection, copper-plated.
4. **Thermostatic bellows** — to insure long life, it's made of special copper alloy, drawn and corrugated by exclusive process in Sarco's plant.
5. **Semi-steel body and cover** — 125 psi steam pressure rated.
6. **Side inlet and outlet** — pipe can be connected vertically, horizontally, or at right angles.
7. **Easy access** — to all working parts. Entire trap mechanism attached to easily removable cover; accessible without disturbing connections.

Sizes — ¾", 1" and 1¼"
Working Pressures—up to 125 psi

Write for Bulletin 455-B to Sarco Company, Inc., 635 Madison Avenue, New York 22, N. Y.

6896

SARCO
SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA.

For more details circle NED-345 J1 on enclosed inquiry slip

STOPS LEAKS
PERMANENTLY:
prove it at our expense!

Use *Leak Lock* to seal thread and flange joints...to keep bolts, nuts and plugs from loosening under the most rigorous usage. It's been job-proved in thousands of applications to give these advantages...

- Withstands solvents that eat away other joint compounds.
- Remains flexible indefinitely ...joints won't freeze.
- Gives a tight seal under a wide range of temperatures, pressures.
- Does *not* heat spontaneously.
- Is unaffected by oil, gasoline, refrigerants, most gases and chemicals.
- Makes work easier... flows on and stays where applied.

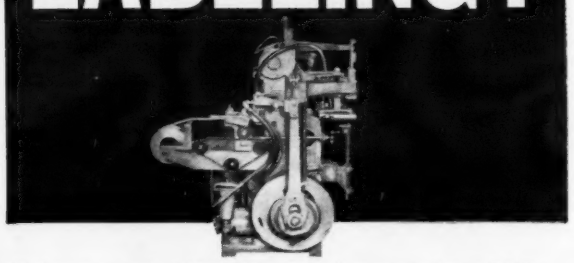
Listed by Underwriters' Laboratories for gas, oil, propane and butane equipment.

FREE SAMPLE—*Leak Lock* is available in handy tubes and in cans. Write on your letterhead for sample tube.

HIGHSIDE CHEMICALS INCORPORATED
14 Colfax Avenue • Clifton, New Jersey

For more details circle NED-347 J1 on enclosed inquiry slip

MUST YOU MEET
SHORT-RUN LABELING?



If short runs and a wide variety of labels are part of your labeling problem, this machine can help you. Industries such as drug, hardware, electronic, automotive and textile have found that *roll labeling without glue* offers matchless control, efficiency and convenience.

New Jersey Machine Corp. offers the economies of roll labels, the ability to imprint valuable data within a master label, and a quick-start no-glue labeling operation. Write today for full information.

Labeling, Cartoning, Paper Box Machinery
NEW JERSEY MACHINE CORPORATION

Main Office and Plant: 16th Street and Willow Avenue, Hoboken, New Jersey • Oldfield 9-0483
Factory Sales & Service Branches: 325 W. Huron St., Chicago 10, Ill. 2500 W. 6th St., Los Angeles 57, Cal.

For more details circle NED-348 J1 on enclosed inquiry slip

NOW..YOU CAN SHINGLE A FACTORY ROOF

WITH CLASS "A" FIRE SAFETY-RATED PHILIP Carey FIRE-CHEX SHINGLES

For roofs down to 2" slope . . . exclusive 25 year guaranty bond . . . available through your roofing contractor or your building supply dealer. Mail coupon for important fact folder.

The Philip Carey Mfg. Co. Dept. NE-961 Cincinnati 15, Ohio

Send me your fact folder, "Now You Can Shingle a Factory Roof."

Name.....
Position.....
Company.....
Address.....
City.....Zone.....State.....

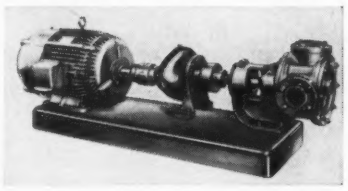
For more details circle NED-349 J1 on enclosed inquiry slip

PIN & KEYSTOCK KIT
partitioned box holds 422 pieces

Assortment of dowel, tension, taper, and groove pins, plus Woodruff keys and 12-in. lengths of keystock and pinstock are packaged in this kit. Some 422 pieces are contained in the partitioned metal box. A chart in the lid lists all lengths and diameters and sizes needed for repair or replacement. Refills are available. • **John Gillen Co.**, 2540 S. 50th Ave., Cicero 50, Ill.

For more details circle NED-350 J1 on enclosed inquiry slip

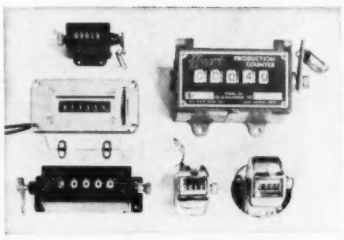
GEAR DRIVEN PUMPS
have 200, 300, and 450-gpm ratings



Compact, independently mounted Size C helical gear reducer used with this line of heavy duty, positive displacement rotary pumps accepts any one of five gear ratios. The three pump sizes have nominal ratings of 200, 300, and 450 gpm for pressures up to 200 psi. With either a 1750 and 1150-rpm motor, they afford a capacity range from 65 to 450 gpm. The Size C gear reducer has also been added to a line of smaller pumps with 50 to 150-gpm nominal ratings. Standard couplings connect both motor and pump to reducer. • **Viking Pump Co.**, Fourth & State Streets, Cedar Falls, Iowa.

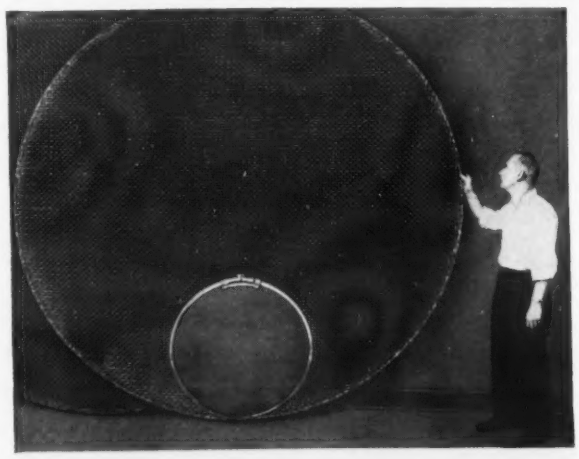
For more details circle NED-351 J1 on enclosed inquiry slip

COUNTERS & TALLYS
mechanical and magnetic models



Light and medium duty counters and tallys of both mechanical and magnetic impulse types are available for a variety of applications. Shown in counter - clockwise order from upper left are Model HL-5 counter for vending machines, light metalworking equipment, and other light applications; Model HE-6 electrical counter for mounting anywhere for remote control; Model HM-5 medium duty fast-stroke counter for drills, milling machines, and similar machines; Model HT-4 hand tally for traffic flow and inventory use; Model HD-4 desk tally; and Model 5A heavy duty industrial counter for machine applications. All counters are rated at 700 strokes per minute and have outside resets. • **Hart Mfg. Co.**, 940 N. Main St., Ann Arbor, Mich.

For more details circle NED-352 J1 on enclosed inquiry slip



FILTERS IN SPECIAL METALS LICK CORROSIVE PROBLEMS

Wire cloth is tailor made by Tyler in a variety of special metals—stainless steel, aluminum, Monel, in addition to more common materials. Tyler controls the design of all metals and alloys used in weaving; processes all its own non-ferrous and many stainless steel wires. Complete range of fabrications available. Tyler produces world's broadest line of wire cloth—your assurance of unbiased recommendations and exact matching to your needs. Call or write The W. S. Tyler Company, 3615 Superior Avenue, Cleveland 15, Ohio.

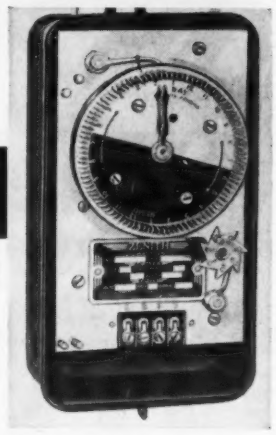
TYLER

WOVEN WIRE SCREENS • SCREENING MACHINERY • TESTING SIEVE EQUIPMENT

For more details circle NED-353 J1 on enclosed inquiry slip

completely automates intermittent operations

ZENITH
Multi-Operation TIME SWITCH



AS MANY AS 48 "ON" AND 48 "OFF" OPERATIONS CAN BE HANDLED. The Zenith Multi-Operation Time Switch provides 24-hour automatic control of all types of equipment day after day. Schedule is set up on an easy-to-operate control dial scaled to 15-minute calibrations. Tripping clips are non-removable but easily slide to the ON or OFF position. Calendar cutout to provide for non-working days is available as an accessory.

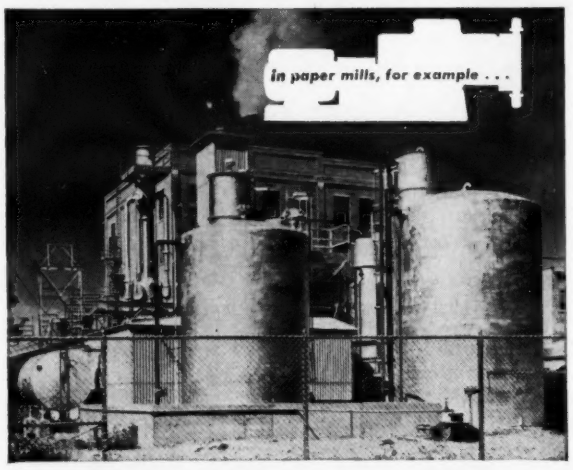
Switch is powered by a heavy duty synchronous industrial motor. Rated at 1000 w., 60 cycle ac.

ASK FOR FULL INFORMATION. Request complete catalog on company letterhead describing Zenith Automatic Transfer and Remote Control Switches, Magnetic Contactors, Program Clocks and Timing Controls.

See Classified Directory under Electrical Equipment of Local Representative

ZENITH ELECTRIC CO.
152 WEST WALTON STREET • CHICAGO 10, ILLINOIS

For more details circle NED-354 J1 on enclosed inquiry slip



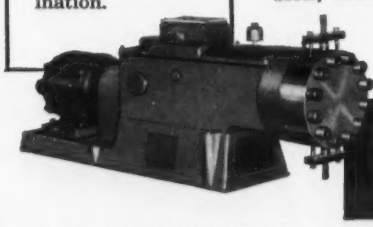
Pulsafeeder compounds chlorine dioxide bleach in perfect proportion without leakage

For Nekoosa-Edwards Paper Company, a special quintuplex Pulsafeeder provides continuous production of a bleaching compound that is too unstable to store. Each of the five heads is independently adjustable to meter out the proper proportion of water, sodium chlorate, sulphuric acid, and two additions of methanol. Result: a critically precise formulation of chlorine dioxide, with total output controlled by a single variable speed drive to keep pace with process rate. Never a drop of leakage . . . never a trace of corrosion . . . in over four years of steady use!

The harder your materials are to handle, and the tighter your tolerances, the more you need a Pulsafeeder. Choose from today's most complete line—in flow rates from a few drops to 15.7 gallons per minute—with reagent heads resistant to any material you use.

PULSAFEEDER IS THE METERING PUMP THAT:
withstands the hardest-to-handle materials you can feed into it . . .
meters them at critically controlled flow rates . . . never leaks a drop . . .
and completely seals pumping fluids from process materials so there can never be a trace of contamination.

WRITE for Catalog 59. Lapp Insulator Co., Inc. Process Equipment Division, 1821 Poplar Street, LeRoy, New York.



Lapp

For more details circle NED-355 J1 on enclosed inquiry slip

TOKHEIM High-Vacuum HAND PUMPS for industrial liquids

Here's an all 'round utility pump that saves much more than its cost in speeding production, improving housekeeping, preventing waste. Eliminates slippery floors and liquid accumulation so often the cause of fire and accidents. Delivers 20 gallons per 100 back and forth strokes. Pumps oil and many other liquids. (Write for approved list.) Has hose or spout outlet. Call your dealer, your Tokheim representative, or write factory.

General Products Division
TOKHEIM CORPORATION
1656 WABASH AVENUE FORT WAYNE, INDIANA

Subsidiaries: GenPro Inc., Shelbyville, Indiana; Tokheim of Canada, Ltd., Toronto, Ontario; Tokheim International, A. G., Lucerne, Switzerland

▲ For more details circle **NED-356 J1** on enclosed inquiry slip ▲

MAY-FRAN Steel Belt Conveyors

HINGED STEEL BELTING HANDLES FORGINGS, CHIPS, STAMPINGS AND TURNINGS.

Engineered for maximum economy, maintenance-free operation and long life, May-Fran belting is available in any width or length to meet individual requirements for load and speed. Economical customized conveyors are available from stocked component parts.

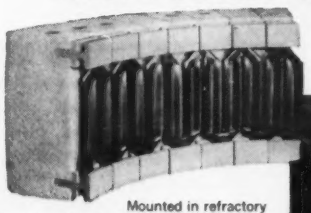
WRITE FOR BULLETIN MF-100A

MAY-FRAN MANUFACTURING CO.
1710 CLARKSTONE RD.
CLEVELAND 12, OHIO
PHONE: KE 1-2304

▲ For more details circle **NED-357 J1** on enclosed inquiry slip ▲

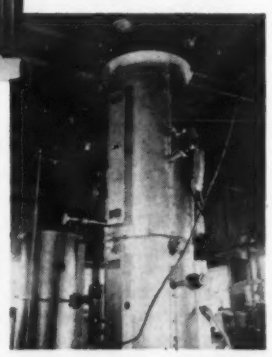
TRENT

"Folded and Formed" Heating Element



On high-temperature insulated alloy steel for maximum radiation.

Mounted in refractory insulation for maximum heat reflection.



Assures uniform, controlled heat on moving bed reactor for nuclear grade Uranium Oxide processing.

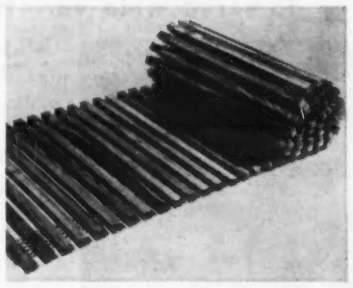
USE HEAT IN YOUR PROCESS? LET TRENT ENGINEERS SHOW YOU HOW TO DO IT BETTER WITH TRENT ELECTRICALLY HEATED JACKETS, KETTLES AND INDUSTRIAL EQUIPMENT. WRITE FOR BULLETIN J-1.

TRENT INC. Electrically Heated Industrial Equipment
251 Leverington Ave.
Philadelphia 27, Pa.

In Canada: Pioneer Electric Eastern Ltd., Toronto

▲ For more details circle **NED-358 J1** on enclosed inquiry slip ▲

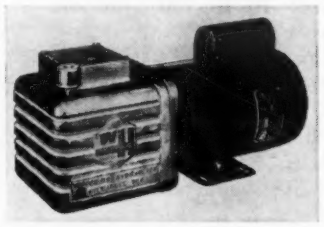
WOOD SLAT FLOOR MAT in 18 to 72-in. roll-up widths



Hardwood slats of this reversible, roll-up floor mat are joined by interlocking, rust - resisting coil connectors. Slats are treated to prevent rotting and warping. The Rolamat affords safe, comfortable footing on hard concrete floors in front of machinery and other plant areas where oily or greasy conditions exist. It is offered in widths from 18 to 72 in. and is 13/16 in. thick. Beveled nosing is available on the ends. • **American Mat Corp.**, 1733 Adams St., Toledo 2, Ohio.

▲ For more details circle **NED-359 J1** on enclosed inquiry slip ▲

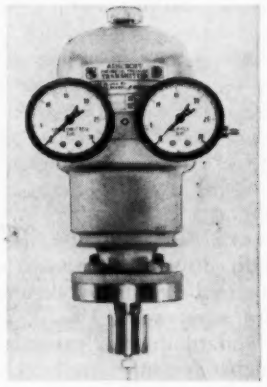
HYDRAULIC POWER PACKAGE includes motor, pump, and tank



Control valves for any circuitry design can be mounted directly on the MPT self-contained hydraulic power package to provide a unit for many applications. Alternating current motors in fractional and integral horsepower sizes are directly connected to a reservoir tank, made in various sizes. Pumps of various capacities and pressure ratings are mounted inside the tanks. • **Wisconsin Hydraulics, Inc.**, 3165 N. 30th St., Milwaukee 16, Wis.

▲ For more details circle **NED-360 J1** on enclosed inquiry slip ▲

LINEAR MOTION INDICATOR transmits motion as an air signal



Linear motion is transmitted as a pneumatic signal for indication on a remote receiver gage by the Ashcroft pneumatic motion transmitter. It can be installed on various machine and tooling setups to send continuous checking information to a central control station. Motion is sensed by a valve actuating rod, causing a change in output air pressure. Rod is readily modified to suit application. Instrument delivers either a 3-15 or 3-27 psi output signal on supply air of 18-20 and 30-35 psi, respectively. • **Manning, Maxwell & Moore, Inc.**, Gauge & Instrument Div., 250 E. Main St., Stratford, Conn.

▲ For more details circle **NED-361 J1** on enclosed inquiry slip ▲

Now you can-- Seal Cans Fast with FREUND TRIPLE-GRIP Can Clips*

*Exceed Post Office Requirements for Parcel Post Shipment

If you ship in friction top cans--it will pay you to seal the lids with Freund Triple-Grip Can Clips. Once applied--they stay put. And anyone can quickly and easily apply them--no skill or experience required.

SEND FOR SAMPLES

For convincing proof--you're invited to try Freund Triple-Grip Can Clips and see for yourself. Samples, simple instructions, and low quantity prices--yours for the asking. Use your letterhead or handy coupon below.

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4445 Cottage Grove Ave. • ATlantic 5-7700 • Chicago 53, Ill.

FREUND CAN COMPANY
4445 Cottage Grove Ave.
Chicago 53, Illinois
Date _____ 6

Without obligating us--send samples of Freund Triple-Grip Can Clips.

YOUR NAME _____ FIRM NAME _____
ADDRESS _____

▲ For more details circle **NED-362 J1** on enclosed inquiry slip ▲

SO EASY TO USE IN SO MANY WAYS

Lyon Slotted Angle is the low-cost answer for bulk storing and stacking.

Write for free 100-page Lyon catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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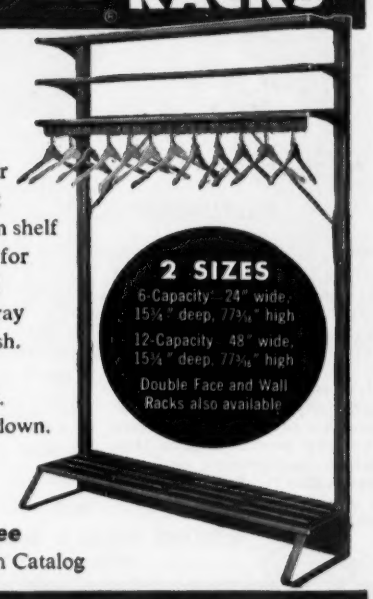
LYON COAT RACKS



Sturdy, formed square tubular uprights, cantilever shelves. Upper hat shelves and bottom shelf are slot-ventilated for quick drying. Skid domes on base. Gray baked enamel finish. Furnished with hardwood hangers. Shipped knocked down.

Write for free 100-page Lyon Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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LYON STEEL SHELVING

Patented CLIP AND STUD design provides easy, low-cost assembly and quick adjustability without nuts, bolts or tools. Available in a variety of types and sizes to handle practically every shelf storage requirement. Gray or green baked-on enamel finish.

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LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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COLD STEAM!

CUTS COSTS ON EVERY CLEANING JOB!

Penetrating force of HYDRO-AIR blasts heavy dirt or quickly rinses metal sheets and small parts. Connects to your air and water supply. Siphoning attachment for application of solvents—under pressure—on parts, motors, machinery or any difficult surfaces. 1001 USES IN ALL TYPES OF INDUSTRY—Aircraft, Bakeries, Breweries, Bottling Plants, Cement, Dairies, Farming, Food Processing, Meat Packing, Railroads, etc.

HYDRO-AIR

Pressure Washer

ORDER THRU YOUR SUPPLIER or write direct:

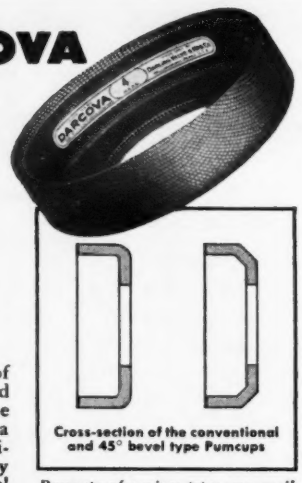
D & M PRODUCTS, INC.
26 N. Raymond Ave.
Pasadena, California

For more details circle NED-366 J1 on enclosed inquiry slip

TRY DARCOVA PUMCUPS

FOR

- *Higher pump efficiency*
- *Lower pump maintenance*



Cross-section of the conventional and 45° bevel type Pumcups

IT'S a fact that hundreds of reciprocating pump and cylinder users today are standardizing on Darcova Pumcups because they eliminate fluid slippage, costly down-time and maintenance!

It's easy to check these claims right in your own plant. Behind this exceptional Darcova Pumcup performance lies texture-engineering and cup design that conform precisely to pressure-temperature-fluid conditions.

Pumcups of various types are available in a complete range of sizes and texture-engineered compositions for your reciprocating pump and cylinder requirements.

Pumcups are available in 100% Nylon as well as other texture-engineered compositions. Write for your copy of Bulletin No. 5903.

DARLING VALVE & MANUFACTURING CO.
Williamsport 14, Pa.

DARCOVA — TRADE MARK — PUMCUPS

For more details circle NED-367 J1 on enclosed inquiry slip

CHICAGO® PRESS BRAKES

UNEXCELLED ACCURACY

for sheet metal and plate work

Model 410D, 90-Ton CHICAGO Mechanical Press Brake. Other standard models from 11 to 450 ton capacities.

Model 600H10, 600-Ton CHICAGO Hydraulic Press Brake. Other standard sizes from 300 to 2000 ton capacities.

Complete details or recommendations on any press brake work upon request

Press Brakes
Press Brake Dies
Straight-Side-Type Presses
Hand and Power Bending Brakes
Special Forming Machines

CHICAGO DREIS & KRUMP

DREIS & KRUMP MANUFACTURING CO.
7436 S. Loomis Blvd., Chicago 36, Illinois

For more details circle NED-368 J1 on enclosed inquiry slip

16-MM REFLEX CAMERA equipped with 400-ft magazine to serve wide variety of needs

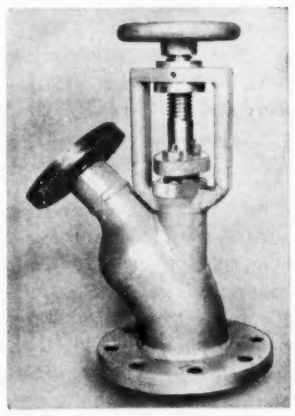
Reflex finder of the Kodak Reflex Special 16 mm motion picture camera enables the operator to view the image photographed through the taking lens while the unit is in operation. It operates at 24 frames per second. The synchronous motor can be replaced with a variable speed motor or drive unit for time and motion studies. Entire film handling mechanism is removable for cleaning.

Camera has a 400-ft film magazine that can be used with 100 or 200-ft rolls of film on a camera spool. Magazines of 1200 ft capacity are optional. Standard equipment is a 25-mm f/1.4 Ekton lens in a three-position turret. Lenses from 10 to 150 mm and a 17.5 to 75-mm zoom lens are available.

Focus point is on a ground glass which corresponds exactly with the film plane. Reflex finder has a 10:1 magnification, and can be changed to 20:1 for critical focusing. A factory-installed magnetic sound recording system will be available later. Price is $1895. • **Eastman Kodak Co.**, 343 State St., Rochester 4, N. Y.

For more details circle NED-369 J1 on enclosed inquiry slip

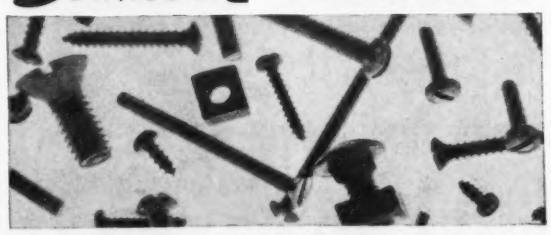
PLUG VALVES with receding or extending plugs



Designed with no "pocket" between the vessel and outlet pipe to collect unprocessed materials, this line of plug valves is suited for use in chemical, paint, plastics, and other processing industries. Flush type with either receding or extending plugs are made of steel or other alloy in plain and jacketed types. Valves can be modified to give discharge at almost any angle, to provide a long body for use with direct-fired vessels, or to include pneumatic or hydraulic cylinder operators or extended shafts. Standard sizes are 1, 1½, 2, 2½, 3, 4, 5, 6, 8, and 10 in. Standard working pressures are up to 300 psi; units for higher pressures are custom made. Standard pipe flange spacing is used. • **Economy Mfg. Co.**, Railroad Street, East Liverpool, Ohio.

For more details circle NED-370 J1 on enclosed inquiry slip

Southern **SPECIALIZES IN**



STANDARD FASTENERS FOR METAL

Whether your fastener requirements call for steel, brass, silicon bronze, aluminum or stainless steel, Southern Screw specializes in first-quality standard fasteners for metal applications.

For cadmium, zinc or nickel plated finishes, Southern's plating department can mean substantial savings in time and money, eliminating extra expense where fasteners are made in one location and shipped elsewhere for plating. More important, Southern plating assures your order of constant quality control from manufacture through shipment.

The specials you need may be in our stock as standards. For super service on fine fasteners, contact your nearest Southern distributor, or write Southern Screw Company, P. O. Box 1360, Statesville, North Carolina.

USA—Made of USA Materials in Statesville, North Carolina
Warehouses: New York • Chicago • Dallas • Los Angeles

Machine Screws* & Nuts • Tapping Screws* • Thread Cutting Screws* • Stove Bolts • Wood Screws* • Hanger Bolts • Drive Screws • Carriage Bolts • Continuous Threaded Studs.

*Phillips, Slotted and Hex Head Styles

Southern SCREW COMPANY

For more details circle NED-371 J1 on enclosed inquiry slip

The Standard of Excellence!

■ For design, utility, and service you can't beat VACO. The Comfordome handle and oil tempered chrome vanadium steel blade assure maximum convenience at low cost. The VACO name and unconditional guarantee assure finest workmanship.

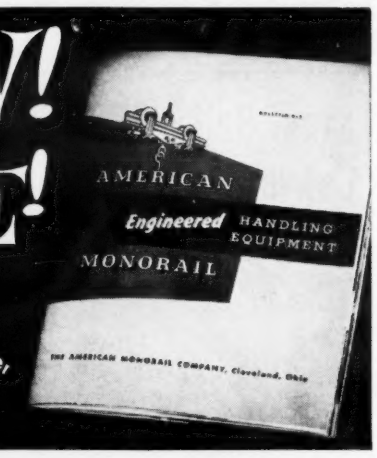
Look for the VACO Vari-Board! Next time you need a screw driver, fit the driver to the screw by making your selection from a VACO Vari-Board. Your choice of up to 120 screw drivers at a glance!

NEW! VACO PLIERS! Now available in all popular styles and sizes. Made to VACO quality specifications.

VACO PRODUCTS COMPANY, 317 E. Ontario St., Chicago 11, Ill.
In Canada: Vaco-Lynn Products, Ltd., Montreal 1, Quebec

For more details circle NED-372 J1 on enclosed inquiry slip

NEW! FREE!



• 56 PAGES
• 99 PHOTOS
—all workable, profitable ideas!

NEW idea book on Monorail handling systems for...

FACTORIES • FOUNDRIES • LAUNDRIES • PACKERS • PAPER MILLS • TEXTILE MILLS • AUTO PLANTS • WAREHOUSES • OTHERS

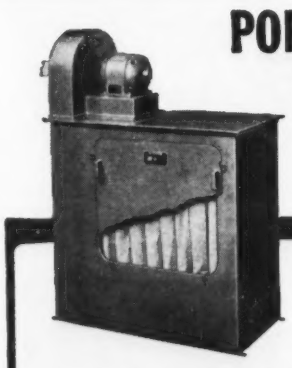
SEND TODAY!

Order this 56-page booklet on this magazine's inquiry form or write direct to us requesting Bulletin C-2.

AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

For more details circle NED-373 J1 on enclosed inquiry slip

PORTABLE DUST COLLECTORS



For localized plant dust control in grinding, polishing, sawing and other processes, Norblo portable dust collectors provide effective operation at low cost. Bag-type units in six sizes are available for 300 to 1350 CFM. Alternate arrangements available requiring maximum floor space of 4' x 2'. Bags are cleaned by shaking and collected dust is unloaded from a door, drawer, or hopper. Also available in semi-portable units with compressed air bag cleaning. Ask for bulletin 162 for complete specifications. Northern Blower Division, Buell Engineering Company, Inc., 6435 Barberton Avenue, Cleveland, Ohio.

ELECTRIC PRECIPITATORS
CYCLONES • BAG COLLECTORS
COMBINATION SYSTEMS
FANS • CLASSIFIERS

buell Norblo

For more details circle NED-374 J1 on enclosed inquiry slip

10, 30, 60, 100 and 200 amp. ROTARY SNAP SWITCH type P

- Positive snap action.
- Up to eight poles.
- Shorting or non-shorting.
- Unlimited or limited rotation.
- Three mounting styles.
- Tested to your specifications

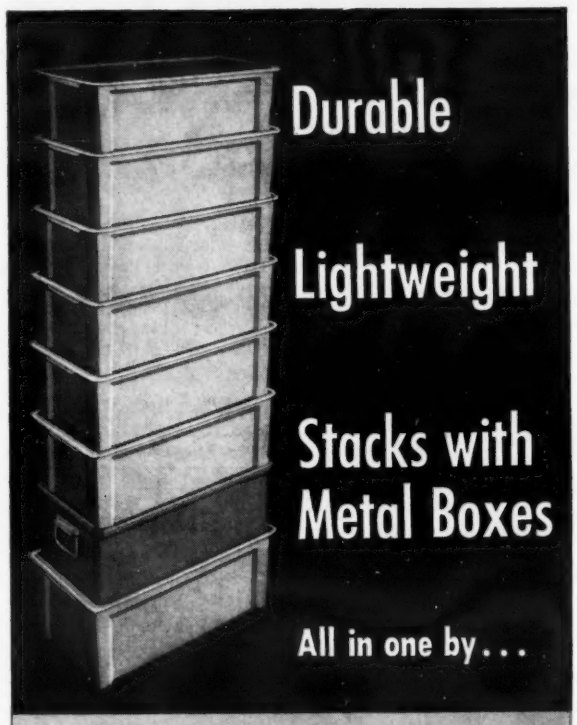
Write for catalog.

Style I mounting Type P 10 ampere switch

Style II mounting Type P 200 ampere switch

ESCO of WEYMOUTH
ELECTRO SWITCH CORP.
Weymouth (Boston 88), Massachusetts

▲ For more details circle NED-375 J1 on enclosed inquiry slip ▲



Now . . . a sturdy tote box of strong-as-steel molded fiber glass which stacks interchangeably with your present metal boxes of the popular 10 by 20 by 8-inch size.

You can benefit from the advantages of durable molded fiber glass immediately by introducing Toteline Model 538-1 into your present system. Then replace metal boxes with Toteline boxes as the metal boxes need replacement.

Toteline boxes last indefinitely without maintenance. They can't rust or leak . . . you can't dent them and they never need straightening. There are no sharp edges . . . just smoothly rounded corners.

Molded handles are a part of the integral, one-piece stacking lip. Steel wire, concealed within the edges of the box, adds strength and rigidity.

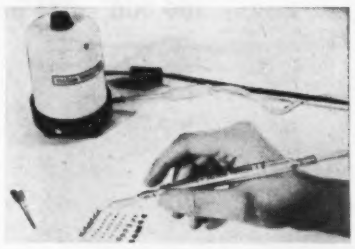
Also available are Toteline fabricated boxes made to your exact specifications in large or small quantities. These custom made boxes have panels of molded fiber glass, up to 3/16 inch thick. Top and bottom frames and corner angles are of strong galvanized steel or aluminum. Casters, hand holes, runners, lids, compartments . . . you name it, we'll make it.

MOLDED FIBER GLASS TRAY CO.
LINESVILLE, PA.

ONE OF THE MOLDED FIBER GLASS COMPANIES

▲ For more details circle NED-376 J1 on enclosed inquiry slip ▲

MINIATURE PARTS HANDLER
tiny parts picked up by vacuum



User of the V-100 Vacuum Tweezer can quickly, safely, and firmly pick up, hold, sort, carry, and deposit miniature or subminiature parts and components. Vacuum is controlled by covering the by-pass opening in the pencil-shaped body with the index finger. Complete self-contained system weighs several pounds, and its adjustable electromagnetic vacuum generator will operate continuously on 110-v ac. Body is connected to generator by rubber tubing. Three stainless steel pickup needles of various sizes are included with the $39.95 unit. • **Anco Products,** 276 Park Ave., Collingswood 7, N. J.

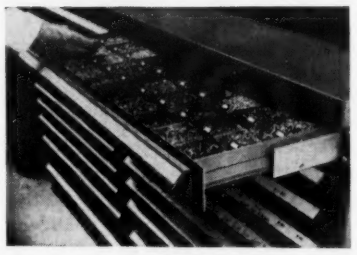
▲ For more details circle NED-377 J1 on enclosed inquiry slip ▲

HOLE PUNCHING UNITS
hole diameters range up to 3½ in.

Maximum mild steel thickness of ⅛ in. can be perforated with up to 3½-in. holes by Regular Duty 5½-in. frame width hole punching units. Holders are semisteel castings, cored for lightness, and designed for perfect alignment between punch and die. Units are available with 8, 12, and 16-in. throat depths, and are interchangeable or compatible with other makes of unitized tooling. • **Tool Products Corp.,** 377 Old Falls Blvd., North Tonawanda, N. Y.

▲ For more details circle NED-378 J1 on enclosed inquiry slip ▲

VISIBLE STORAGE DRAWERS
installed in standard metal shelving



Economical small parts storage facilities are realized by the conversion of standard metal shelving to full suspension visible storage drawers. The Cribdrawer units have low cost ball bearing suspended drawer guides and, when open, expose all parts classified and ready for selection. Wide variety of sizes can be used in both new installations and in conversion of existing metal shelving. Subdivision into over 500 different combinations is possible by inserting partitions, dividers, label holders, and other accessories in slots. Drawer heights range from 2¼ to 11¼ in. in 1-in. increments. • **Cribdrawer Co.,** 38 Maplewood Ave., Philadelphia 34, Pa.

▲ For more details circle NED-379 J1 on enclosed inquiry slip ▲

MOLDED POLYETHYLENE DRUMS ... reduce shipping, handling and storage costs

Redmanson polyethylene drums, designed for almost any container application, are especially practical where corrosion is a problem. These drums last much longer than steel and cost far less than stainless. Redmanson drums are easily cleaned, light in weight, and nest when empty. Sizes up to 55 gallon capacity are available. Write for information and prices.

REDMANSON CORPORATION
630 Loucks Mill Rd.
York, Pennsylvania
Choice distributorships and Mfg. Rep. Territories available

▲ For more details circle NED-380 J1 on enclosed inquiry slip ▲

For portable commercial wet or dry cleaners or other applications requiring high vacuum and moderate air flow. Features new non-dirt-loading fan blades and air cooled fan-end bearing.

FREE! Write for descriptive Bulletin 251

THE LAMB® ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric SPECIAL APPLICATION FRACTIONAL HORSEPOWER **MOTORS**

▲ For more details circle NED-381 J1 on enclosed inquiry slip ▲

For central vacuum cleaner systems or other applications requiring high vacuum and moderate air flow. Features single air discharge . . non-dirt-loading fan blades . . . and air-cooled fan-end bearing.

FREE! Write for descriptive Bulletin 252

THE LAMB® ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric SPECIAL APPLICATION FRACTIONAL HORSEPOWER **MOTORS**

▲ For more details circle NED-382 J1 on enclosed inquiry slip ▲

If your new product requires a special fractional horsepower motor, let Lamb Electric do the THINKING • DESIGN • MANUFACTURE • You get the RIGHT motor produced at the most favorable cost.

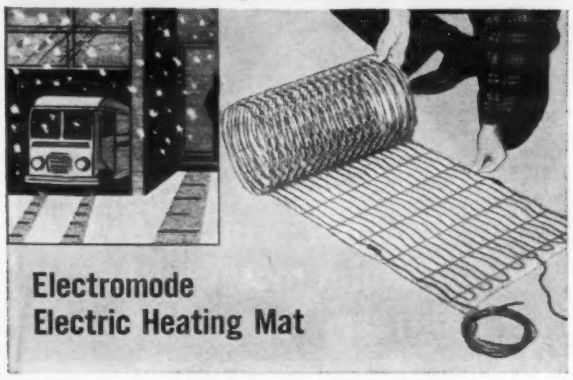
FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference"

THE LAMB ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric SPECIAL APPLICATION FRACTIONAL HORSEPOWER **MOTORS**

▲ For more details circle NED-383 J1 on enclosed inquiry slip ▲

New . . . Heating Mat That Melts Away Snow and Ice



- Installs easily beneath concrete surface of driveways, walks, docks, steps, etc., for quick, labor-free snow removal.
- Waterproof, securely-anchored connections.
- 18 inches wide, in lengths of 6, 10, 20 or 40 feet.
- Choice of 208 or 230 volts.

For more information, write:

®Electromode

Dept. NED-81, 570 Culver Road, Rochester 3, New York

For more details circle NED-385 J1 on enclosed inquiry slip

POWER SWEEPER
18-hp engine enables it to cover 300,000 sq ft per hour

Hydra-mechanical drive system of the Starsweep Model 1054 power floor sweeper provides both infinitely variable travel speeds and constant broom and vacuum blower speeds. It has a 54-in. main broom sweeping swath, or 64 in. with standard right hand side broom and 76 in. with dual side brooms. Area covered is up to 300,000 sq ft per hour. The 16-cu ft hopper is dumped hydraulically in a neat pile in less than 8 sec. Single foot controls forward and reverse travel.

Enclosed 78-sq ft Filter-Vac dust control system and 13 disposable dry air cleaner type filter elements that are cleaned automatically are featured. Unit is powered by an 18-hp two-cylinder air-cooled engine with electric starting and 18-amp generator. Items of optional equipment include headlights, flashing red light, water and Oxy-Catalyst mufflers, and synthetic or wire broom brushes. • **Wayne Mfg. Co.**, 1201 E. Lexington Ave., Pomona, Calif.

For more details circle NED-387 J1 on enclosed inquiry slip

AIR CUTS OFF AUTOMATICALLY

Handy, versatile A-10 Air Gun shoots air where you want it, when you want it. Flex nozzle when you want air, toss hose aside when you don't. Made of grease-resistant Neoprene and machined brass. No handles, levers, springs or packing. Can't clog, break, or get out of adjustment. Hardened and plated steel tip prevents damage from dropping or dragging.

FITS ¼" IRON PIPE THREAD

Write today for catalog and price sheets to

HECKETHORN MFG. & SUPPLY CO.
DYERSBURG, TENN.

"Makers of Flex-Tip Water Nozzles"

For more details circle NED-390 J1 on enclosed inquiry slip

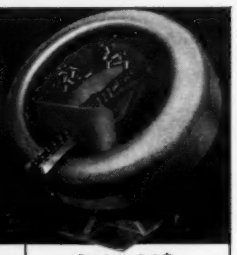
NOW! . . . *the industry's finest*

AUTOMATIC PARTS FEEDERS

at the industry's lowest prices!

If your operation involves the manufacture or processing of parts in volume quantities, it will pay you to investigate the cost saving advantages of Feedmatic-Detroit automated equipment.

COMPARE THESE LOW FEEDMATIC PRICES *on Standard Rotary Hoppers*



14" DIAMETER	$185.00*
16" DIAMETER	205.00*
18" DIAMETER	225.00*

All prices include 115 volt totally enclosed electric motor. 220/440 volt motor $10.00 additional.

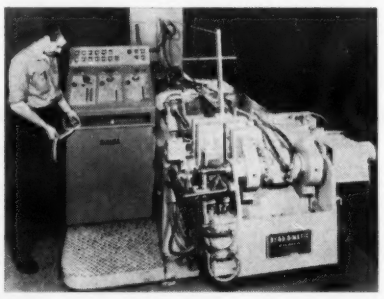
Automatic pick-up and placement units available for complete automation of assembly process . . . designed to meet your specific requirements.

**Tracks extra, subject to quotation.*

SEND SAMPLE PARTS FOR PROMPT QUOTATION

FEEDMATIC—DETROIT, INC.
P.O. BOX 115-C • Southfield, Michigan
Rotary Hoppers • Floor Hoppers • Automatic Gaging Machines
Automatic Assembly Machines

TUBE BENDING MACHINE
numerically controlled by tape to bend accuracy of ± 3 min



Tape writer and tape reader equipment is built into the Bend-O-Matic tube bending machine, designed to handle any material with diameters up to 1¼ in. The automated, numerically controlled unit bends lengths up to 8 ft accurately within ±3 min and with linear dimension to ±0.005 in. Change-over from one bending pattern, tube diameter, and radius to another can be made in about 35 min. Machine takes existing dies from any standard conventional bending machine and requires no inspection fixtures.

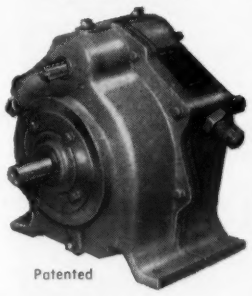
Once a program has been punched on tape, it can be used repeatedly to produce the same part to close tolerances. Basic machine consists of a bending unit with controlled motions for advancing, twisting, and bending the tube, and a G-E Mark III numerical positioning system with integral decade pushbutton, tape writer, and tape reader. • **Nu-Era Corp.**, 342 South St., Rochester, Mich.

For more details circle NED-388 J1 on enclosed inquiry slip

HOT-SHIFT TRANSMISSIONS

S-N Reversing Transmissions have precision-designed features that meet your requirements for power transmission. Space-saving single units—Smooth and instant reversing under full load—Gives you maximum flexibility of design—Performance-proven—8 HP and 28 HP models available.

MODEL 5201
FORWARD, REVERSE, NEUTRAL, REDUCTION



Patented

SPECIFICATIONS	
Reduction Forward	3.16:1
Ratio Reverse	3.16:1
Power up to	28 HP
Max. Input Torque	1000 in. lbs.
Max. Input Speed	2400 RPM
Dimensions Long	11½"
Dimensions Wide	13½"
Dimensions High	14¼"

Write for technical literature:

SNOW-NABSTEDT
The Snow-Nabstedt Gear Corporation
Hamden, Connecticut
TRANSMISSION SPECIALISTS FOR OVER HALF A CENTURY

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TRACK MATERIAL CATALOG

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SWITCH MATERIAL
CRANE RAIL
TRACK TOOLS & ACCESSORIES

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For additional help call the Foster Track Specialist nearest you.

Faster From Foster
RAIL • PILING • PIPE

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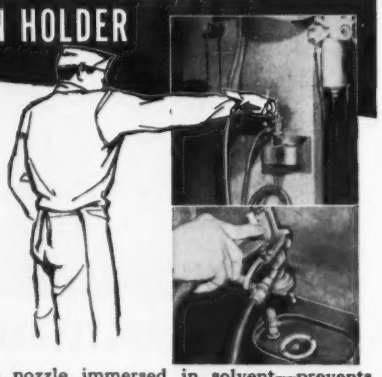
"Clean Safe"
SPRAY GUN HOLDER



STOPS GUN CLOGGING

SAVES TIME AND LABOR

Holder keeps gun nozzle immersed in solvent—prevents paint from hardening and clogging opening. Eliminates dangerous, time-killing practice of cleaning spray guns in open pails of flammable thinners. Gun is securely held in well opening, ready for instant use. Unit is complete with solvent reservoir and supply line. Solvent automatically kept at correct level in Gun Holder. Spring mounted perforated metal fire baffle in well opening protects solvent against exterior fire sources. *Write for complete details, prices.*

Protectoseal Safety Equipment is now available for immediate shipment from a warehouse serving your area. 24 hour delivery on most items.

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565 Western Ave. N.W. Atlanta 14, Ga.
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2205 McKinney Ave. Houston, Texas

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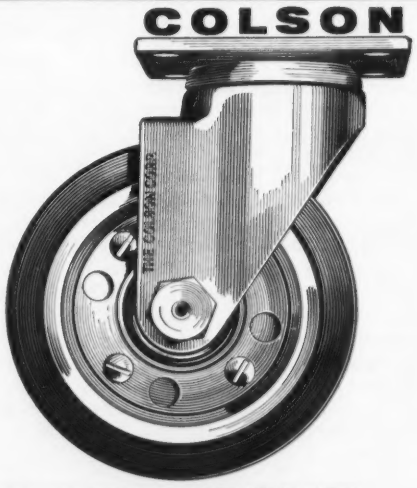
THE PROTECTOSEAL COMPANY
1964 South Western Avenue Chicago 8, Illinois

For more details circle NED-389 J1 on enclosed inquiry slip

COLSON

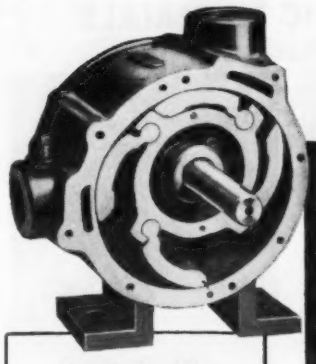


SMOOTH MOVE

to buy Colson Quality Casters! Precision built for unusually long and dependable service.
Designed to meet your specific requirements, regardless of load weight, operating or floor conditions.
Write for free descriptive catalog.

The Colson Corporation • 7 S. Dearborn St. • Chicago, Ill.
Plants: Jonesboro, Arkansas; Elyria, Ohio; Somerville, Massachusetts; Toronto, Canada.

For more details circle NED-392 J1 on enclosed inquiry slip



WEAR-FREE!
CARE-FREE!
REPAIR-FREE!

LEIMAN AIR PUMPS with the Exclusive HINGED VANE DESIGN

Practically take care of themselves

Self-honing surfaces. Curved cast iron vanes rotating against cast iron cylinder walls hone wear surfaces to a hard, glassy smoothness. Provides continuous leak-proof seal and low-friction operation.

Self-renewing vanes. Cast iron vanes take up their own negligible wear. No composition tips to wear and renew. Provides years of new-pump efficiency.

Self-oiling. Leiman Automatic Oiler feeds the right amount of oil while running—needs no manual regulation—prevents over-oiling—reduces possibility of oil-staining.

The simplified Leiman hinged vane design provides larger air space, higher capacity—permits use of smaller pumps, slower speeds, lower horsepower. Every pump rigidly test-run before shipment. Specify Leiman Air Pumps for your vacuum, suction or pressure operations for lifetime dependability. Consult Leiman engineers on any application.

Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

WRITE FOR LATEST CATALOG and Application Book showing many how-to-do-it blueprints.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N.J.
Established 1889

For more details circle **NED-393 J1** on enclosed inquiry slip

HANDY TO USE... IDEAL FOR SERVICE KITS

Approved for all petroleum products services.

INDUSTRY'S LEADING PIPE THREAD COMPOUND

Get *Plastic Lead Seal in the handy-to-use 4-oz. plastic applicator tube. It's an ideal size for tool and service kits. Tube won't damage when dropped or hit by blunt tools...never cracks at seams.

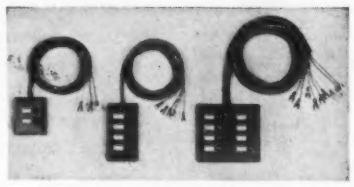
Use PLS for water, steam, gas, chemical, refrigerant or petroleum services ...pressures to 6000 psi., temperatures to 500°F. Seals permanently. Never hardens. Underwriters' approved.

Request Sample Tube. *Better yet, send order for special 12-tube package. Act now.*

John Crane CRANE PACKING COMPANY
6411 OAKTON STREET, MORTON GROVE, ILL. (Chicago Suburb)

For more details circle **NED-394 J1** on enclosed inquiry slip

PUSHBUTTONS & BUZZERS for many audible signaling uses



Normal telephone, plant, or office voltages are used with this line of 1, 2, 4, and 8-button model pushbutton units for various audible signaling purposes. Made of blue-beige plastic with cork base pads to prevent scratching, they are available wired with 6-ft, 22-gage PVC flexible cord in matching color, or unwired. Respective single unit prices are 65 cents, $1.60, $3.50, and $5.60 unwired. Also offered is matching Model SE-7 buzzer, equipped with silver contacts and reed mounted armature for alternating or direct current use. Price is $3.40. • **Suttle Equipment Corp.**, 135 S. LaSalle St., Chicago 3, Ill.

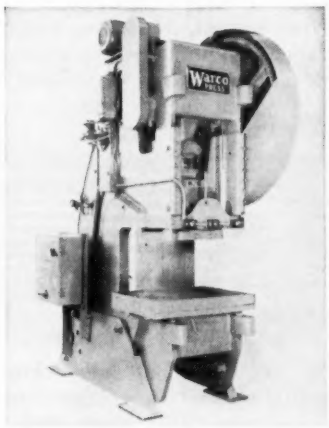
For more details circle **NED-396 J1** on enclosed inquiry slip

SELF-CLINCHING NUT for sheets 0.040 in. thick and up

Small, self-locking, self-clinching stainless steel nut is designed for use in sheets 0.040 in. thick and up. No. 4 to 10 sizes are suitable for temperatures to 800° F and for use in materials with Rockwell hardness of B-75 or less. Class 3B threads are coated with dry film lubricant. • **Penn Engineering & Mfg. Corp.**, Doylestown, Pa.

For more details circle **NED-397 J1** on enclosed inquiry slip

OBI PRESSES capacities from 40 to 200 tons



Blanking, forming, bending, and shallow draw work can be performed on line of open back inclinable presses of 40 to 200 tons capacity. For drawing operations they may be equipped with a die cushion in the press bed. The welded steel presses are made in single geared or flywheel types as standard, or with double back gearing. Flywheel types range from 40 to 75-ton capacities. Press stroke is made in any length to suit requirements. The inclinable gap frame provides unobstructed access to the die area from three sides. Finished parts may be removed by gravity and air jet and directed through the back. Pneumatic friction clutch and brake units are standard. • **McKay Machine Co.**, Federal Warco Div., 212 Dana St., Warren, Ohio.

For more details circle **NED-398 J1** on enclosed inquiry slip

Tougher... Lighter... Smaller

handles more air with minimum pressure drop

Has fewer parts. Locking ring provides positive lock...tight fit...minimum wear. Equipped with automatic sleeve lock.

Handles any job in your shop using ¼" to ⅛" connections—from the air line to the air tool—eliminates any need for various size couplings in hook-up—makes it easy to keep stock of parts in balance—holds inventories to a minimum.

All Series 2-RL Sockets and Plugs are completely interchangeable—likewise all larger Series 3-RL Sockets and Plugs.

HANSEN SERIES RL QUICK-CONNECTIVE RING LOCK COUPLING

Write for Catalog — a ready reference when you want information on couplings in a hurry.

Instant Automatic Flow or Shut-Off

Representatives in Principal Cities ... See Yellow Pages

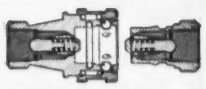
THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle **NED-400 J1** on enclosed inquiry slip

HANSEN

SERIES HK® QUICK-CONNECTIVE
TWO-WAY SHUT-OFF COUPLING

QUICK FLUID LINE CONNECTION OR DISCONNECTION
WITH
INSTANT AUTOMATIC FLOW OR SHUT-OFF



Instantly shuts off both sides of line...prevents loss of liquid, gas or pressure

During instant of disconnection, "O" Ring in Socket provides tight seal—eliminates nuisance of leakage or spillage. In reverse, when Coupling is connected, "O" Ring seals Coupling *before* valves in Socket and Plug release flow from both sides of line.

Furnished in brass or steel with female pipe thread connections from ⅛" to 1½" inclusive—also up to 1" in stainless steel.

Write for the Hansen Catalog

a ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Two-Way Shut-Off, One-Way Shut-Off, and Straight Through Couplings.

Representatives in Principal Cities ... See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle **NED-401 J1** on enclosed inquiry slip

ROLLPIN® SHOP KIT $12.00

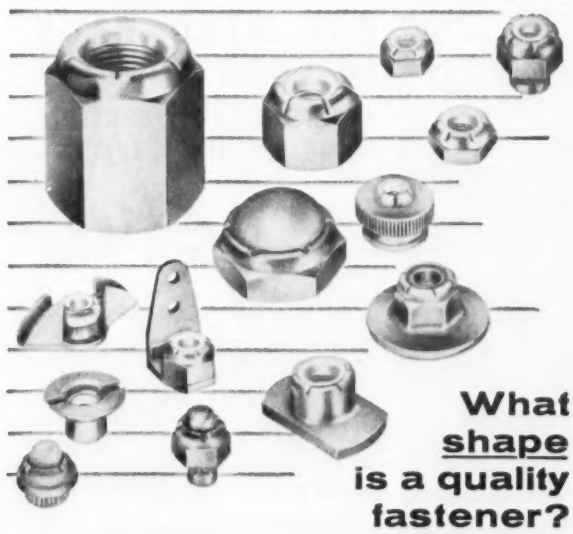
The Rollpins in this handy compartmented kit serve the function of taper pins, straight pins, set screws, rivets, dowels, cotter pins, etc. They're slotted, chamfered, tubular spring pins that exert constant pressure against the walls of the holes into which they're driven. They won't loosen even under severe vibration. Over 700 Rollpins; diameters from 1/16" to ½"—lengths from 3/16" to 3¼".

We guarantee you'll find Rollpins the easiest, quickest solution to hundreds of fastening problems in machine, repair and prototype assembly shops.

Send for Rollpin Kit #300 today. Mail check or purchase order for $12.00 (we pay postage). No C.O.D.'s please. Write: Dept. R57-937

ROLLPIN TRADEMARK
ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Rd., Union, New Jersey

For more details circle **NED-395 J1** on enclosed inquiry slip



What shape is a quality fastener?

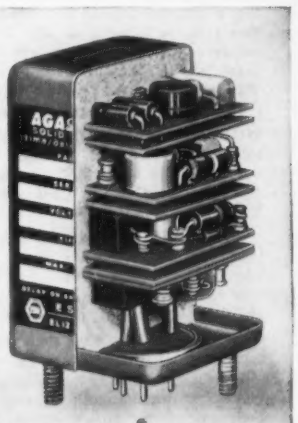
Here is a handful of ELASTIC STOP® nuts. Each has ESNA's familiar red locking collar*... is vibration-proof and made of the finest materials. Each is exactly controlled as to finished dimensions, class of thread fit and finish . . . with an unmatched record for uniformly high quality. **Most of them are standard parts . . .** some originated as a result of a specific requirements for ESNA's assistance. So . . . for help on *your* next fastening problem, send us the details of your application. Write Dept. SL-937.

**The red locking collar is a Registered Trade Mark of ESNA.*

ESNA ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle **NED-399 J1** on enclosed inquiry slip

NEW SOLID STATE time/delay/relays



...with traditional AGASTAT® reliability!

Now available . . . *solid state* AGASTAT time/delay/relays with accuracy and reliability essential for critical missile and computer applications.

Advanced design . . . uses modular construction for versatility, rapid delivery on custom units. Specially selected, matched and tested components assure highest reliability and uniformity.

Six basic types . . . cover timing ranges from 0.01 sec. to 10 hrs. Only 1 5/16" sq. . . . hermetically sealed . . . immune to transients and voltage variations. Operation—18-32 vdc, pull-in or drop-out. Load current up to 5 amps. Write for brochure . . . contains full technical details. Dept. S3-109.

AGASTAT TIMING INSTRUMENTS
ESNA ELASTIC STOP NUT CORPORATION OF AMERICA
ELIZABETH DIVISION • ELIZABETH, NEW JERSEY

IN CANADA: ESNA CANADA, LTD., 19 BOWER ST., TORONTO 18, ONTARIO, CANADA

For more details circle **NED-402 J1** on enclosed inquiry slip

HI-TEMP LUBRICANT

● Effective over 1000°F.

Hi-Temp 2409 lubricant is a completely new type that contains no silicones, diesters, soaps, or heavy metals. At 200°F., it becomes fluid and carries lubricant to all surfaces. At 500°F., the synthetic carrier evaporates and leaves a soft film of dry lubricant that easily withstands 1000°F.

Write for the new book on Hi-Temp Lubes.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

▲ For more details circle NED-403 J1 on enclosed inquiry slip ▲

7 Types of HOBBS Controlled Tension Winders

Check the Type YOU Need

☐ 1. STANDARD HOBBS "CHP" WINDER. Preset tension is automatically maintained through the torque-speed characteristic of a constant horsepower A.C. motor. The latter slows down as the diameter of the roll increases. Its torque output increases proportionally, maintaining essentially constant H.P. — the equivalent to constant tension. May be stalled 100%. 220 or 440 volt operation. Roll buildup depends upon material being wound. Also supplied for tapered tension. Ratio of speed change and diameter buildup as high as 1:30.

☐ 2. HOBBS "CHP" WINDER WITH SYNCHRONIZATION (NTJ). Preset tension maintained during frequent speed changes through a 3-phase synchronizing generator, driven by main machine. Speed of generator varies with that of main machine. Frequency of output current and speed of motor varies accordingly, resulting in essentially constant tension. Unit has higher ratio of speed change and diameter buildup than standard unit, a ratio of 1:100 being obtained on some material.

☐ 3. HOBBS-APF PROGRESSIVE FRICTION WINDER. Preset tension automatically maintained with extreme accuracy, during a roll buildup of 8:1, through a series of overriding friction clutches running in oil. Driven from the main machine, winder changes speed in proportion and still maintains constant tension. Required torque increase is sensed directly from the web (no dancer rolls).

☐ 4. HOBBS DC FIELD CONTROL WINDER SYNCHRONIZED WITH DC MACHINE DRIVE. Preset tension automatically maintained (with accuracy of ±2% over roll buildup of 8:1, or even 10:1) by controlling the field current through a saturable reactor. Strength of the field is automatically adjusted to hold the armature current constant for any tension setting.

☐ 5. HOBBS DC FIELD CONTROL WINDER — WITHOUT DC MACHINE DRIVE. For situations where synchronization is not necessary. Except for absence of synchronization, winder operates as above. An independent adjustable DC supply is provided for the automatic field control.

☐ 6. HOBBS DC FIELD CONTROL WINDER SYNCHRONIZED WITHOUT DC MACHINE DRIVE. Synchronized winding characteristic is as described in paragraph 4. However, the armature voltage is automatically controlled by a signal from a tach generator on the main machine. This operates through a magnetic amplifier and saturable reactor circuit.

☐ 7. HOBBS DC SPEED CONTROL WINDER. For use when ranges of speed, width and diameter are beyond the capacity of a tension control winder. This unit provides synchronization and near zero constant tension. A dancer roll controls a transducer, regulating the armature voltage of a DC shunt motor, thus determining the output speed of the motor. Static control achieved with a saturable reactor.

Check the type of Hobbs winder most suitable for YOU and ask us to figure on your requirements.

If you don't know, tell us your problem and ask us to make recommendations.

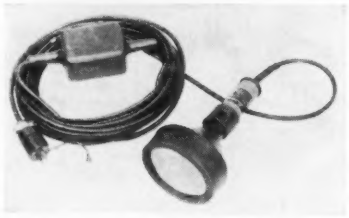
HOBBS Manufacturing Company
411 Salisbury Street, Worcester 5, Mass.
Direct Sales Offices in Irvington, N. J., Columbus, Ohio, Chicago, Ill. and Los Angeles, Calif. Representatives in Greenville, S. C. and Toronto, Ontario, Canada.

609-8

WINDERS • HAND & POWER SHEARS • SLITTERS & REWINDERS • DIE PRESSES

▲ For more details circle NED-404 J1 on enclosed inquiry slip ▲

TROUBLE-SHOOTING LAMP
sealed unit produces 65,000 cp



Sealed beam bulb of the 110-v Jetlite trouble-shooting lamp has a 100 to 200-hr life. It is sealed in tough vulcanized rubber which seals out liquids and gases, and guards against sparks when dropped. It is safe to use around volatile fluids and explosives. Bulb is protected by a 3/16-in. tempered safety glass plate. Unit is comprised of lamp, 36-ft cord, and transformer, and produces 65,000 cp. ● **Burton Mfg. Co.**, Burton Medic-Quipment Div., 1918 E. Imperial Highway, El Segundo, Calif.

▲ For more details circle NED-405 J1 on enclosed inquiry slip ▲

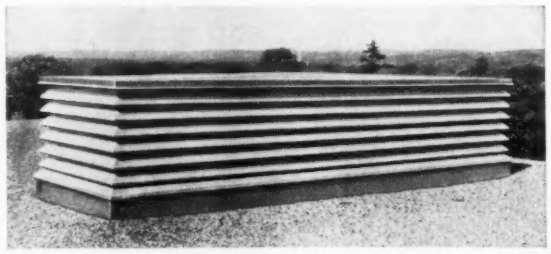
PIPE WRENCH
instantly adjusts to any pipe size

Gripso-Matic lightweight, high strength pipe wrench is available in 6, 8, 10, and 14-in. sizes. It provides instant adjustment to any pipe size and can be snapped closed when not in use. Spring-loaded ratchet locking device inside the handle and a hook calibrated from ½ to 2 in. for presetting are features. ● **Standard Fittings Co.**, 82 Herbert St., Framingham, Mass.

▲ For more details circle NED-406 J1 on enclosed inquiry slip ▲

ALUMINUM PENTHOUSE
for roof air intake or exhaust

Weatherproof, attractive, and economical, the C-S extruded aluminum penthouse provides an efficient means of handling intake or exhaust ventilation air through



the roof. Mitered and welded louver blades extend around all four sides. Penthouse roofs are designed for a minimum 30-lb snow load and are removable for access. An automatic pop-up roof held by a fusible link may be incorporated. Operating louvers, automatic dampers secured at the rear of fixed blades, or a dual combination louver can be incorporated for air control. Prefabricated penthouse with screens and a variety of finishes are made in sizes from 2 x 2 ft upward. Special types are also offered. ● **Construction Specialties, Inc.**, 55 Winans Ave., Cranford, N. J.

▲ For more details circle NED-407 J1 on enclosed inquiry slip ▲

STOP

PORTABLE! MIDWEIGHT! QUALITY ENGINEERED!
Exclusive 3-way, pivotal-rigid combination handle. Either-hand, momentary safety switch.
13" KL-13 $169.50 for areas up to 5,000 sq. ft.

Generals ARE FEATURE-FILLED

GO

MAIL COUPON FOR COMPLETE DETAILS

PUT $100 BACK IN YOUR POCKET!
WHY SPEND $300 FOR A LARGE FLOOR MACHINE? THE NEW

General

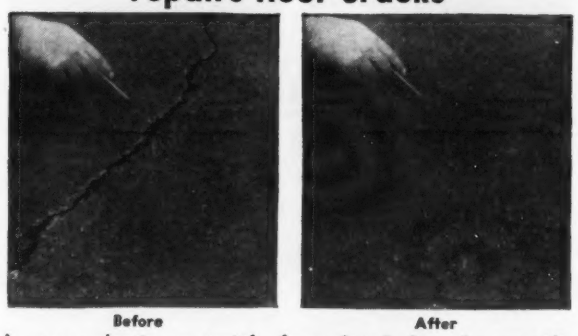
15" KL-15 at $199.50 DOES THE WORK PERFECTLY for areas up to 7,500 sq. ft.

General FLOORCRAFT, INC.
3630 Rombouts Ave., Bronx 66, N. Y. Est.1930
• All Sizes For All Types of Floors — Made By Floor Specialists
• World's Most Complete Line of Floor Maintenance Machines & Vacuums

NE-9
☐ Have Distributor call on us.
☐ Send complete information, literature and prices.
☐ Floor Machine ☐ Vacuum
Company
Street
City State
My Name Title

▲ For more details circle NED-408 J1 on enclosed inquiry slip ▲

NEW PLASTIC MATERIALS
repairs floor cracks



Before After

A new plastic material, formulated for the specific purpose of repairing floor cracks and preventing surface deterioration, is announced by The Monroe Company, Inc., Cleveland. Known as "Jiffy Floor", it is a fine granular, ready-to-use plastic product that can be applied without interfering with production or traffic. It readily fills hairline cracks, shallow holes, spalled floors or expansion joints. Immediately after application, it will withstand heaviest loads.

Jiffy Floor contains no asphalt, cement, sand or gravel. It will not crack, crumble or curl . . . is not affected by temperature changes . . . can be applied indoors or out.

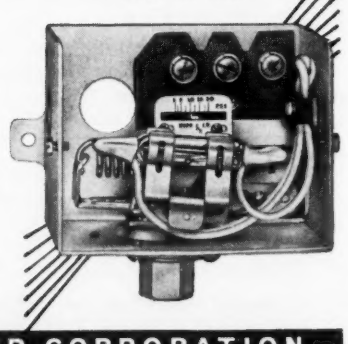
Jiffy Floor is waterproof, dustless, skid-proof and noiseless. Available in 5-10-30 and 55-gallon drums, ready for easy use. For further information write **The Monroe Company, Inc.**, 10702 Quebec Avenue, Cleveland 6, Ohio. *Advt.*

▲ For more details circle NED-409 J1 on enclosed inquiry slip ▲

for Instrument Air
MERCOID PRESSURE CONTROL
Small, Lightweight

UL listed. Specifically designed for instrument air. Diaphragm operated. Furnished standard SP-DT to provide any of the following operations. SP cut-in high; SP cut-in low; or SP-DT operation. Two operating ranges, 1 to 20 and 1 to 30 psi. External adjustment. Visible calibrated dial. Hermetically sealed mercury switch which is visible thru glass fronted cover. Write for Bulletin 02.

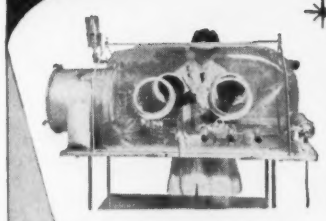
Type AP-153



THE MERCOID CORPORATION
4209 Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-410 J1 on enclosed inquiry slip ▲

This is the PERFECT "Dust-free" Laboratory



*AMSCO Flexible Film Laboratory Dry Box

This low-cost, transparent "self-contained laboratory" is designed for laboratory or production procedures demanding a controlled, isolated atmosphere . . . whether it be dust-free, moisture-free, toxic compound confining, inert gas atmosphere . . . an almost endless list.

Amsco's disposable Flexible Film Dry Box is ideal for delicate transistor and diode assembly, experimental metallurgy, missile sub-assembly work, instrument assembly . . . even Alpha radiation studies.

The canopy collapses into a compact package for storage. Following certain radiation studies, it may be disposed of easily . . . economically. Chamber is 48" long x 26" wide x 28" high and has four "working" ports, interchange lock for parts and several ducts for service lines. Optional air filtration system.

Write for bulletin IC-607.

World's largest designer and manufacturer of Sterilizers, Surgical Tables, Lights and related technical equipment for hospitals, industry, research

SCIENTIFIC AND INDUSTRIAL DEPARTMENT
AMERICAN STERILIZER
ERIE • PENNSYLVANIA

▲ For more details circle NED-411 J1 on enclosed inquiry slip ▲

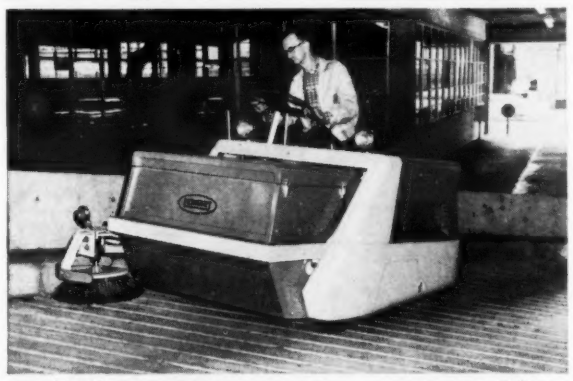
Specify MVS—the vari-speed belt that gives you complete design flexibility and maximum operating efficiency

- *Completely adjustable* to any length for full freedom in equipment designs for V-to-V drives.
- *Vibration-free power delivery.* Links, studs, cup-washers and T-screws are absolutely uniform for perfectly balanced drives.
- *Exact speed control*—uniform thickness and width guarantee constant power delivery at all speeds.
- *Patented design* assures no cross-sectional distortion—provides maximum lateral stiffness.
- *Easier to install* without disassembly of unit.
- *Minimum inventory*—as many as 72 stock sizes of variable speed belts can be made up from one standard package of a given top width.

Send for free MVS catalog.

MANHEIM MANUFACTURING & BELTING CO., MANHEIM 4, PA.

For more details circle NED-412 J1 on enclosed inquiry slip



Powerful 18 hp Tennant 85 even sweeps steep ramps, cleaning a 53" path

New hydraulic-driven Tennant sweeps ULTRA clean

AT ALL SPEEDS, fast or slow, the all-new Tennant 85 Power Sweeper sweeps *ultra-clean.* New hydraulic drive gives variable travel speeds (to 6 mph), while brushes and fan run at constant rate. *Has no equal for fast, clean work.*

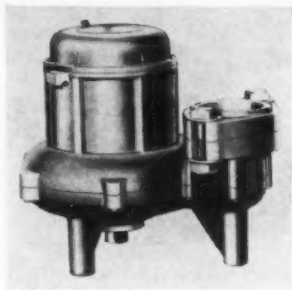
NEW BULLETIN is packed with facts, photos, data. Write for your copy!

TENNANT *Industry's Most Widely Used* **POWER SWEEPERS**

G. H. TENNANT COMPANY • 715K N. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

For more details circle NED-413 J1 on enclosed inquiry slip

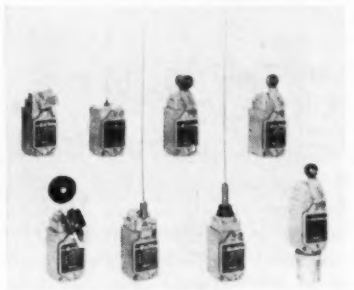
EJECTOR PUMP
handles stringy semisolids, solids



Sewage ejection, transformer vault and manhole drainage, and processing waste drainage are among jobs handled by this ejector pump. It features a nonclogging impeller that will discharge liquids, semisolids, and solids in packing plant, cannery, and other operations involving stringy wastes and bulk solids. The ½-hp pump is rated 4500 gph in the 2-in. discharge model and 5880 gph with a 3-in. discharge, both at a 10-ft head. • **Piqua Machine & Mfg. Co.,** Piqua, Ohio.

For more details circle NED-415 J1 on enclosed inquiry slip

LIMIT SWITCHES
new operators added to line



Increased application flexibility of Type L precision oil tight limit switches is afforded by nine new operators. They include roller lever with metal roller, roller lever with 1-in. wide roller, adjustable roller lever with 1½-in. diameter roller, adjustable spring rod actuator, adjustable nylon rod actuator, duplex limit switch, wobble stick with 12-in. wire extension, cat whisker operator, and precision adjusted roller lever with nylon or metal roller. Options available are manifold mounting, a mounted and wired Joy receptacle, wet limit switch, mounting adaptor kits, and oil-tight conduit bushings. • **Cutler-Hammer Inc.,** 315 N. 12th St., Milwaukee 1, Wis.

For more details circle NED-416 J1 on enclosed inquiry slip

UTILITY LAMP
easily carried subminiature unit

In folded position, the Model 5979 subminiature multipurpose utility lamp measures 7 x 2 x 3 in.; extended, it is 12 in. high. The 1¼-in. diameter lamp shade accommodates a G-E 55 bulb. Easily carried in an attache case, the lamp is available in various colors for $14.95. • **Tensor Electric Development Co.,** 1873 Eastern Parkway, Brooklyn 33, N. Y.

For more details circle NED-417 J1 on enclosed inquiry slip

Specify Veelos—the only v-belt that gives you complete design flexibility and maximum operating efficiency

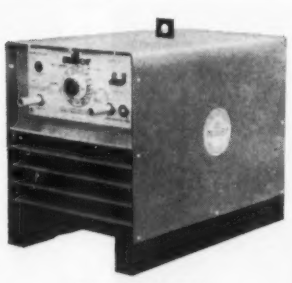
- *Simplification of drive layout*—no limitations imposed by belt length and sheave position.
- *Balanced construction*—maintains the right tension to assure full power delivery for faster, cleaner work.
- *Saves machine bearings* and shafts by cutting machine vibration up to 90%.
- *Cool running* for long belt life. No internal heat build-up.
- *Easiest installation*—no resetting, tilting or moving of motor.
- *Always ready*—minimum inventory for maximum plant coverage. Four reels of O, A, B, and C provide up to 316 sizes.
- *New Veelos Tool*—the fastest, easiest way to uncouple link v-belt. Ask your Veelos distributor.

Send for free Veelos data book.

MANHEIM MANUFACTURING & BELTING CO., MANHEIM 4, PA.

For more details circle NED-418 J1 on enclosed inquiry slip

YOU GET MORE WITH A miller



GOLD STAR SRH

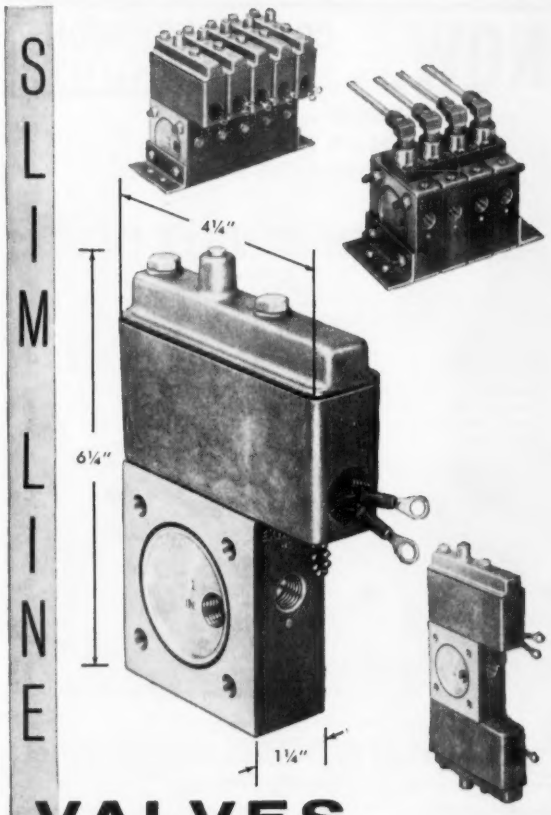
GOLD STAR SR

. . . Much more! More and better welds in less time, for one thing. You buy the welder just once . . . but every minute it's in use, it's bearing big interest in the form of increased production. More welder life too: Better basic design combines with Miller's own selenium rectifier to deliver performance, reliability and rectifier durability never approached elsewhere. And more economy too? Yes, especially more economy. That's why motor generator sets — even new ones — are being replaced daily with Miller Gold Star SR welders.

Write for descriptive literature on the Miller Gold Star SR or SRH, or see your local Miller dealer for a demonstration on the how and the why of the "More You Get With a Miller." He proves it! Also available upon request is a new and interesting pamphlet "Rectifiers for Welding" — which you should have.

miller ELECTRIC MANUFACTURING COMPANY • APPLETON, WISCONSIN

For more details circle NED-414 J1 on enclosed inquiry slip



VALVES

- **building block design**
- **minimum space**
- **maximum control flexibility**

Here's truly miniaturized, versatile precision control with surprisingly large flow capacity . . . Slim Line valves! Mount them singly to control clamping devices on jigs and fixtures. Or, bank them in manifolded groups of as many valves as you need, limited only by service and air requirements. Choose from 3- and 4-way types, for air, oil or water service, pressures to 125 psi, tapped ⅛ or ¼ in. NPT.

Where space is limited and you require maximum precision and versatility to control one or a virtually unlimited number of small or medium size cylinders, diaphragms, pilot cylinders, or similar devices . . . you need Slim Line valves. Ask your nearby Hunt representative for proof.

3049

For more information, write for Bulletin 612. Address Hunt Valve Co., Salem, Ohio, Dept. NED-961.

HUNT
QUICK-AS-WINK© AIR AND HYDRAULIC
VALVES
HUNT VALVE COMPANY • DIVISION OF HBEC • SALEM, OHIO

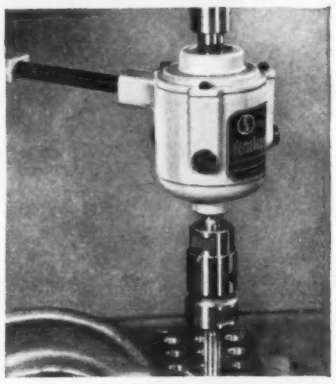
For more details circle NED-419 J1 on enclosed inquiry slip

EQUIP YOUR DRILL PRESS WITH A

Supreme VersaTAPPER

. . . new tapping attachment that gives more capacity . . . more production

The new Supreme VersaTAPPER is a drill press tapping attachment that offers maximum efficiency at lowest initial cost. It's the ideal tool for tapping all holes from No. 10 thru ½". (The full capacity range is 0 to ⅝".) Simple and safe to operate. Two models:—No. 6100 with straight shank for chucking; No. 6200 with Morse taper arbor. Both models include a Supreme Accutap Tap Chuck.



Ask your distributor for a VersaTAPPER demonstration. Write for literature.

$63 COMPLETE

SUPREME PRODUCTS CORPORATION

2222 S. Calumet Ave., Chicago 16, Ill. PRECISION A·S·R PRODUCTS

For more details circle NED-420 J1 on enclosed inquiry slip

NOW... CONVEY THROUGH 180° WITHOUT

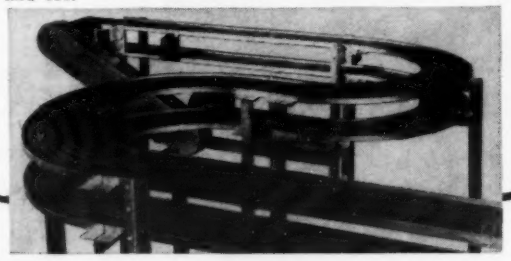
TURNTABLES . . .
DEAD PLATE TRANSFERS . . .
SPECIAL TRANSFER BELTS . . .

with an

ASHWORTH OMNIFLEX BELT

(Patented)

OMNIFLEX was developed by Ashworth Bros., Inc., to meet the needs of industry for continuous conveying of products or raw materials before, after and during processing. This flexible, flat wire belt will reduce handling costs and speed up processing. Open mesh provides circulation, quick drainage, light weight and ease of sanitation. Available in galvanized low carbon steel, bright high carbon steel or Stainless types 302 and 316.



Literature Available, write:

ASHWORTH BROS., INC.

Winchester, Virginia

Sales Offices in Principal Cities

For more details circle NED-421 J1 on enclosed inquiry slip

PLATECOIL®

FOR ALL KINDS OF TANK AND PROCESS HEATING AND COOLING

- Built to fit application requirements
- High heat transfer capacity
- Compact units save space
- Easy to install
- Easy to remove for cleaning
- Available in variety of weldable metals
- Operating Pressures up to 250 psig.

"Platecoil" can be furnished to comply with ASME code

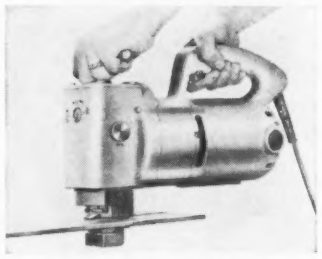
Send for Bulletin P57

PLATECOIL® DIVISION

TRANTER MANUFACTURING, Inc., LANSING 9, MICHIGAN

For more details circle NED-422 J1 on enclosed inquiry slip

PORTABLE POWER SHEAR
torque changeable to suit material



Carbide die, built-in lubricator, and integral circuit breaker are features of the Model SN-40 Gobbler portable power shear. Its variable torque enables the operator to change stroke length for cutting different thicknesses of material. Tool will cut ¼-in. cold rolled steel, 7/32-in. stainless steel, and ⅜-in. aluminum. • **Modern Mfg. Co.**, 680 Davisville Rd., Willow Grove, Pa.

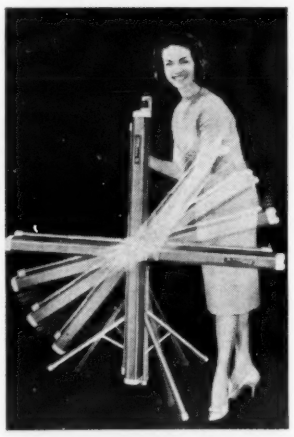
For more details circle NED-423 J1 on enclosed inquiry slip

SHORT BORING BARS
for utmost rigidity in jig boring

Series BB-7500 K boring bars with solid Kennametal shanks have the same diameters, but are shorter than Series BB-7000 K bars. They are intended primarily for jig boring where rigidity is required for close tolerance boring. Three times more rigid than steel, shank minimizes chatter and reduces deflection and vibration. Standard positive-rake screw-on triangular inserts are used on all K-bars. Diameters of ⅜, ½, ⅝, ¾, and 1 in. are respectively 4, 5, 6, 7, and 9 in. long. Oak cases store extra inserts and spare parts. • **Kennametal Inc.**, Lloyd Avenue, Latrobe, Pa.

For more details circle NED-424 J1 on enclosed inquiry slip

PROJECTION SCREEN
picture viewable over 100 degrees



Pressing a single lever on the GlowMaster projection screen causes the tripod legs to spring open, the extension rod to raise, and the case to swing to horizontal position. Its VistaGlow silver lenticular surface beams a bright picture to viewing angles up to 100 degrees. Totally blacked-out room is unnecessary because screen surface resists light from sources other than the projector. One-step tensioning for flat surface, full height adjustability, metal slat bar to protect surface from tearing, and fungus-resistant surface are also featured. Screen is made in 30 x 40, 40 x 40, and 50 x 50-in. sizes. Prices start at $29.95. • **Radiant Mfg. Corp.**, Dept. MTL, 8220 N. Austin Ave., Morton Grove, Ill.

For more details circle NED-425 J1 on enclosed inquiry slip

PANTEX SPEEDYLECTRIC STEAM-JET CLEANER USED BY THE FOXBORO COMPANY

Cleaning Foxboro Magnetic Flow Meters

Mr. J.A. Jette, machinery supervisor says, "Steam cleaning is an absolute necessity and the Speedylectric Unit permits in-plant cleaning safely without excessive water and fumes."

Ask for Bulletins JC–100 and SG–300.

PANTEX MANUFACTURING CORPORATION

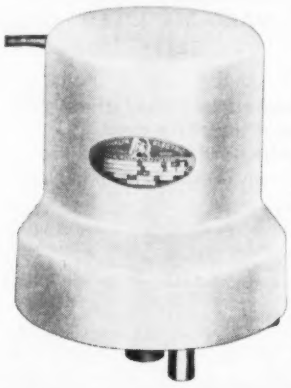
Speedylectric Division

P. O. Box 660NED Pawtucket, Rhode Island

For more details circle NED-426 J1 on enclosed inquiry slip

ATTENTION DESIGN ENGINEERS!

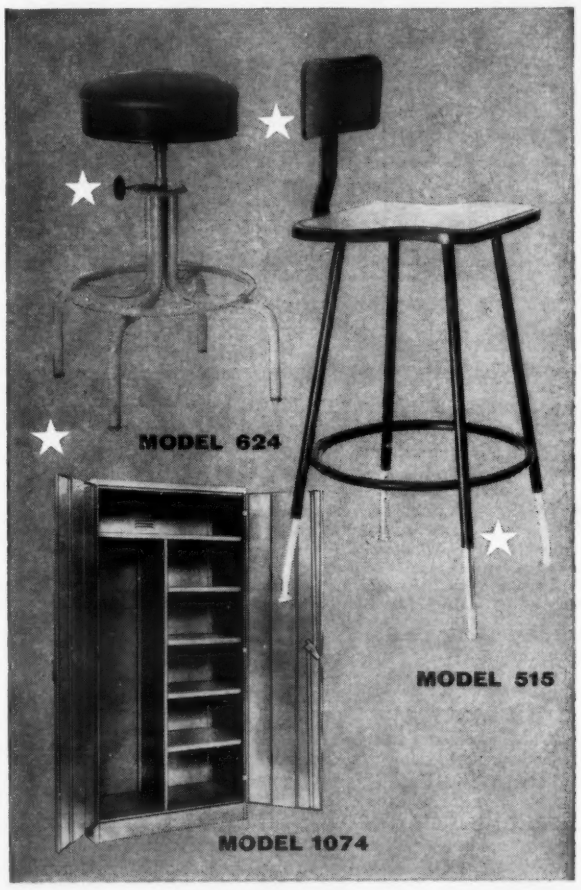
Somewhere there is a new use for our gear motor. This design is a natural for low speed, high torque applications. Perhaps *you* have a new use for a motor which was initially designed for milk agitation. Totally enclosed. Smooth finish. No contaminant collecting flats or crevices.



Drip-proof, wear-proof, utilizing a no-drip, wipe on gear lubricant. Rugged type-300 stainless steel shaft extension. Silent power through helical steel and phenolic gear train supported on ball bearings. Available in single and two speed motors. It's ready *now* for big volume application at a big, big, savings. The expensive, time-consuming work is over. If you have a possible application, let us know about it today.

FRANKLIN ELECTRIC COMPANY, INC. Dept. NED-9, Bluffton, Indiana

For more details circle NED-427 J1 on enclosed inquiry slip



LOOK AT THE FINE POINTS OR YOU'LL MISS THE PAYOFF!

Royal equipment is literally packed with fine points that tailor it to the specific jobs of industry. The Royal Model 515 adjustable chair is typical: contoured, 4-way adjustable back is mounted on strong spring steel to adjust to the slightest body movement. Legs telescope to adjust to most comfortable working height. There's no protrusions to catch clothing or cause injuries. The payoff is worker comfort, efficiency and safety. It's the same with Royal cabinets. All corners are rounded, all hinges and fastenings are concealed. Extra heavy gauge panels are flush finished. Doors are rigid, shelves are adjustable and every cabinet is ventilated. There are dozens of Royal chairs, stools and cabinets for industry. Each is packed with fine points that make it more efficient, more useful, more valuable. Write for full details today. ROYAL METAL MANUFACTURING COMPANY, Dept. 25-I, One Park Avenue, New York 16, N. Y. In Canada—Galt, Ontario.

Royal INDUSTRIAL EQUIPMENT

For more details circle NED-428 J1 on enclosed inquiry slip

WE WEAVE ACCURATE "WORKING OPENINGS"

IN WOVEN WIRE SCREEN AND WIRE CLOTH PRODUCTS

Whether you are grinding, sizing, scalping, dewatering or filtering it's the accuracy of the "working opening" that makes the difference in woven wire screen and wire cloth products. We pride ourselves in weaving accurate "working openings", an engineered screening surface to meet your specification.

First, the best metal or alloy is selected—hard enough to withstand the abrasive action—ductile enough not to break under stress. Next, the best wire diameter and crimp are determined. Then we weave wire screen or wire cloth around accurate "working openings" best suited for your screening application.

FREE! Write for bulletin 160 giving complete details and facilities.

THE CLEVELAND WIRE CLOTH & MFG. CO.
3573 EAST 78th STREET • CLEVELAND 5, OHIO

▲ For more details circle **NED-429 J1** on enclosed inquiry slip ▲

NOW

15 to 450 GPM!

VIKING'S ENLARGED LINE OF HEAVY DUTY HELICAL GEAR DRIVEN PUMPS

Figs. 288 and 388 units with size "C" reducers capable of handling up to 25 H.P. at 350 pump R.P.M.; 40 H.P. at 520 pump R.P.M. 20 to 450 G.P.M. capacities. Five gear ratios available, using one gear case. Six pump sizes in this series.

Now you have an even larger range of Viking's helical gear driven units to fit your pumping jobs. Speed and capacity now range from 15 to 450 G.P.M. They're ideal for handling both thin and thick liquids, ranging from gasoline to molasses. Pumps equipped with packing or mechanical seals. Gear reducers independently mounted. All components can be quickly changed. Step up your delivery with these quiet, positive discharge, self-priming pumps!

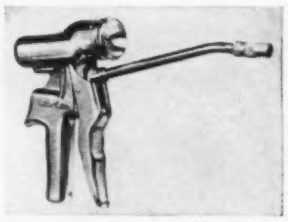
Send today for catalog SP-534G

50 YEARS

VIKING PUMP CO.
Cedar Falls, Iowa, U.S.A.
In Canada, It's "Roto-King" Pumps
See Our Catalog In Sweet's Plant Engineers File

▲ For more details circle **NED-430 J1** on enclosed inquiry slip ▲

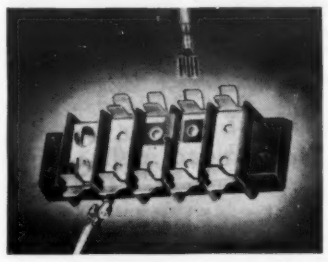
GREASE GUN
with built-in spotlight



Built-in, battery-powered spotlight on the LubriLite high pressure grease gun illuminates shadowy, hard-to-see lube fittings. It is operated by the same short-stroke trigger that fires the lubricant. Light is enclosed in a nonsparking diecast aluminum housing, with steel threaded connections and valve seats. Gun can thus be used in the presence of inflammable materials and vapors. It is priced at $24.95. • **Product Engineering Co.**, 4707 S.E. 17th Ave., Portland 2, Oreg.

▲ For more details circle **NED-432 J1** on enclosed inquiry slip ▲

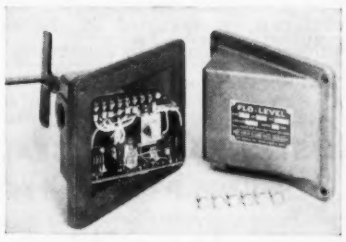
TERMINAL BLOCKS
self-locking, quick-disconnect type



Up to six connections can be made at each stage on Kliptite terminal blocks by using self-locking, quick-disconnect wire terminations. Variangled tabs will accept female wire terminations made by AMP, Burndy, Kent, and Arkless who supply them either singly or in rolls for automatic machine assembly. Blocks are used in appliances, air conditioners, vending machines, and various other types of equipment. • **Kulka Electric Corp.**, 633-643 S. Fulton Ave., Mount Vernon, N. Y.

▲ For more details circle **NED-433 J1** on enclosed inquiry slip ▲

BIN LEVEL CONTROL
optional relay has 10-amp rating



Weather and dust-tight or explosion-proof enclosures are available on the transistorized L-400 material level control, a compact unit for mounting in the walls of a bin, hopper, or tank by means of a $1\frac{1}{4}$-in. pipe coupling. Sensing paddle on the flexible sealed shaft rotates continuously when not surrounded by material. On the high level model the desired control or signal action takes place with paddle stoppage. Paddle release effects signal action on the low level model. Both have fail-safe circuitry. With optional heavy duty relays, ratings are 10 and 5 amp at 110 and 220 v, 60 cycles ac, respectively. Standard duty relays are rated at 5 amp at 110 v and 3 amp at 220 v, 60 cycles ac. • **Flo-Tronics, Inc.**, Electronics Control Div., 1330 Quincy St. N.E., Minneapolis 13, Minn.

▲ For more details circle **NED-434 J1** on enclosed inquiry slip ▲

CH CONTROL

New! Space savingest relay you've ever seen: New Cutler-Hammer "Compact 300"

Cutler-Hammer's new, versatile 300 volt 6 amp., industrial control relay is so reliable it's permanently sealed. Bifurcated contacts add even more millions of operations.

So compact you can get 8 circuits in a panel space only 2" wide by $2\frac{3}{4}$" high. 2, 3, 4, 6, 8 poles with any combination of N.O. or N.C. contacts available. Add new "mechanical memory" latch at any time. Same life as relay. Get full details in PUB. ED-LO-79-S251.

WHAT'S NEW? ASK...

CUTLER-HAMMER

Cutler-Hammer Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.

▲ For more details circle **NED-431 J1** on enclosed inquiry slip ▲

NEED HEAT?

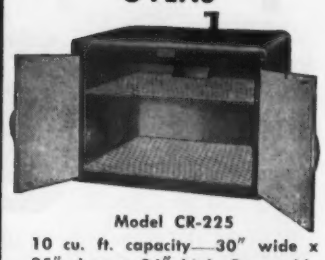
One of our 85 Standard Industrial Ovens will meet your needs.
BENCH • CABINET • WALK-IN TYPES.

For preparation of materials and chemicals for production.

On the production line for intermediate heating.

For baking-on finishes or drying.

GRIEVE-HENDRY OVENS



Model CR-225
10 cu. ft. capacity—30" wide x 25" deep x 24" high. Removable shelves and drip pan. Forced air circulation. Adjustable temperature control to 225° F.
f.o.b. Chicago **$121.50**
Quick quotations, prompt delivery, reasonable prices on Ovens built to your requirements.

Write for literature

GRIEVE-HENDRY CO., INC.
1353 N. Elston Ave., Chicago 22, Ill.

▲ For more details circle **NED-435 J1** on enclosed inquiry slip ▲

Now MORE PICKUP POWER
LONGER SERVICE
AND *at no increased cost with the new*

HILD

700 Series POWER VAC

MODEL 765-1½ Twin powered model for use on your own 55 gallon drums.

Blowing Clean Motors

Portable Model Pipe Cleaning

Single Motor 55 Gal. Model Cleaning Oil Sumps

One power unit converts to seven versatile vacuum cleaner models for heavy duty wet and dry pick-up. Offers new high performance and service with extra power to spare... delivers 250 cubic feet of air per minute at only 10,500 R.P.M.'s. Tank models from 6 to 55 gallon capacity adapt to $1\frac{1}{2}$", 2", or 3" hose and tools. Power unit quickly detachable to form a portable blower or back mounted vacuum cleaner.

15 Gal. Model Scrub Water Pick-Up

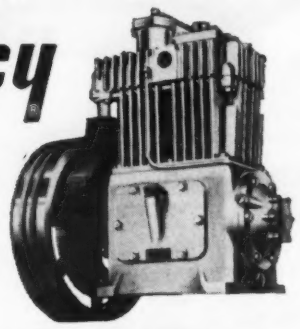
30 Gal. Model Cleaning Heating Units

Write for FREE POWER-VAC brochure and special six page accessory catalogue.

HILD FLOOR MACHINE CO., INC.
1217 W. Washington Blvd., Chicago 7, Illinois
☐ Please send me your catalogue
☐ Please have your representative call
Name_____
Company_____
Address_____
City_____ Zone____ State____

▲ For more details circle **NED-436 J1** on enclosed inquiry slip ▲

Lubrication?
AUTOMATIC WITH
Quincy



SAFE-Q-LUBE is the exclusive Quincy automatic pressure lubrication system that guards bearings against damage in case of oil pressure drop. If this happens, the SAFE-Q-LUBE feature automatically unloads the compressor.

An important advantage like that means less maintenance worries and longer compressor life.

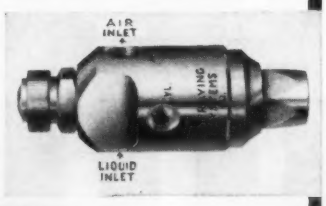
Quincy compressors are built to "take it" and last longer under all conditions and to deliver a maximum of low cost, dependable air power.

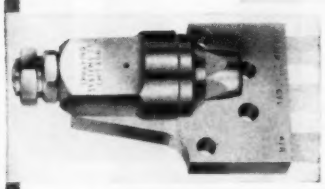
Authorized Service available across the country around the clock. Models 1 to 90 CFM. *Send for catalog.*

QUINCY COMPRESSOR CO., Dept. N-961, Quincy, Ill.
Makers of the World's Finest Air Compressors

For more details circle NED-437 J1 on enclosed inquiry slip

pneumatic atomizing
SPRAY NOZZLES





for
AUTOMATION

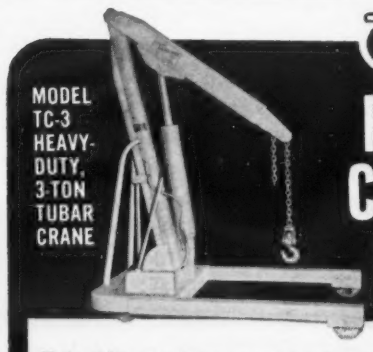
Spraying Systems offers a complete selection of automatic pneumatic atomizing nozzles for use where controlled intermittent spraying is required. In-built shut-off valve is air operated. Precision built for exact control of spray type and volume. Compact and easily installed. Write for Catalog 24.

SPRAYING SYSTEMS CO. 3211 Randolph St. • Bellwood, Ill.

FOR EASIER SPRAY NOZZLE INSTALLATION in any type of system . . . see Catalog 24 for Spraying Systems Adjustable Joints . . . and Bulletin 93 for the NEW Spraying Systems Split-Eyelet Connectors.

For more details circle NED-438 J1 on enclosed inquiry slip

Tubar



MODEL TC-3 HEAVY-DUTY, 3-TON TUBAR CRANE

FLOOR CRANES
8 MODELS 1/2 TO 3 TONS

Tubar Cranes have *QUALITY* where it counts...

- Tilt-Back Mast . . . greater space for load under the boom
- Built-in extension boom . . . no extras to buy
- Variable-Stroke Hydraulic Pump . . . operator adjusts pumping effort to suit load
- Needle-type Control Valve . . . regulates lowering speed for maximum safety
- Overload By-pass . . . safety valve activated automatically by overloads
- Roller Bearing Wheels and Casters
- Four-Point Suspension . . . safe, maneuverable

USE TUBAR FLOOR CRANES FOR . . .

AUTOMOTIVE
Handling engines and transmissions. Hoisting chassis units for repairs.

INDUSTRIAL
Warehousing and truck cargos. Machine installation—heavy part assembly.

There's a TUBAR Man Near You . . . write to:

UHRDEN INC., DENNISON, OHIO
U-361-185-A

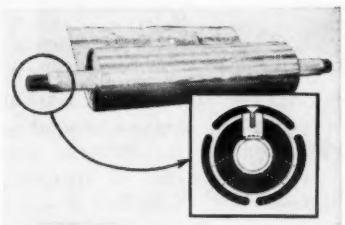
For more details circle NED-439 J1 on enclosed inquiry slip

ELECTROMAGNETIC DETECTOR
detects radiation over wide range

Rapid and simple means of monitoring power density over a 400 to 10,000 mc band is provided by the Model B86B1 electromagnetic radiation detector. The hand-carried or stationary unit responds to all planes of polarization—linear, left and right-hand circular, random, pulsed, or continuous wave. Range of power density indicated is 0.5 to 20 mw/cm². It has a single integral antenna and utilizes two 9-v mercury batteries with 30-hr life. Single-knob operation is without frequency range switching. Size is 6½ x 7½ x 9⅛ in. • **Sperry Microwave Electronics Co.**, Box 1828, Clearwater, Fla.

For more details circle NED-440 J1 on enclosed inquiry slip

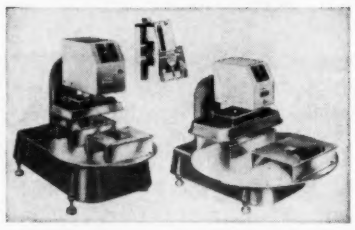
EXPANDING GRIP SHAFT
in any length for cored rolls



Foils, metals, films, papers, and other materials can be wound on cores of various sizes using the Expanda-Grip shaft. The mechanical device provides a uniform tension along the entire core, and is available in any length to fit the bearings or pin drives of the equipment on which it is used. The cam-action expanding shell affords a positive lock in either direction. Two or more cores can be mounted on the same grip shaft for simultaneous feeding or rewinding after slitting. • **A. C. Equipment Co.**, 8207 N. Christiana Ave., Skokie, Ill.

For more details circle NED-441 J1 on enclosed inquiry slip

BLISTER PACKAGE SEALERS
deliver package every 3 sec



An inexperienced operator can load and seal a blister package every 3 sec on either of these two plastic blister sealing machines. Units will package hard, soft, and granular products, and can be changed for different package size in less than 5 min. The Clear-Pack 07CP model with automatically rotating table resistance heat-seals packages up to 10 x 13 in. It requires 28 x 28 in. of bench area, 110 v ac-dc power at 1500 w, and a small supply of compressed air. The Clear-Pack 06CP Jr. seals packages up to 6 x 9 in., requires 18 x 30-in. bench area, and 800 w of 110 v ac-dc. Table is automatically rotated by air power. Units are available on a lease basis, or can be purchased for $1440 and $925, respectively. • **Erdco Engineering Corp.**, Addison, Ill.

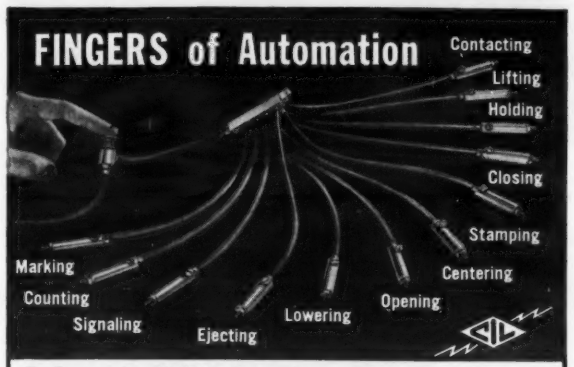
For more details circle NED-442 J1 on enclosed inquiry slip

BULK WEIGHING SYSTEMS
accurate to 1 part in 4000

Almost any bulk material which can be automatically conveyed can be handled by this versatile line of bulk weighing systems. Net weights of materials are obtained with up to 1 part in 4000 accuracy. Multiple drafts of material are weighed and the gross and tare weights of each draft are recorded upon an automatic adding machine. Total net weights of accumulations are always available. Fail-safe design and electrical interlocks assure accurate recording. Six models have capacities up to 3 million pounds per hour. • **Toledo Scale Corp.**, Toledo Scale Div., 1213 Telegraph Rd., Toledo 12, Ohio.

For more details circle NED-443 J1 on enclosed inquiry slip

FINGERS of Automation



Industry's ONLY Complete Line of Miniature Cylinders, Valves and Accessories!

If you have a fluid power design problem where savings in space, weight, or cost must be solved, learn how CLIPPARD Miniature Air and Hydraulic devices can help you. Included in industry's ONLY COMPLETE miniature line are cylinders of ⅜" thru ⅞" bore, valves, valve solenoids, flow controls, quick connects, programmers, manifolds, fittings, tubing and accessories. All are interchangeable and are limited in usefulness only by the scope of your imagination. WRITE FOR COMPLETE CATALOGING, NOW!

Clippard Minimatics

Clippard INSTRUMENT LABORATORY, INC.
7378 Colerain Rd., Cincinnati 39, O. • Phone: JAckson 1-4261
Manufacturers of Miniature Pneumatic Devices, R.F. Coils, Electronic Equipment

For more details circle NED-444 J1 on enclosed inquiry slip

WHY LIGHT Aluminum-Wound LIFTING MAGNETS PAY BIG TONNAGE DIVIDENDS

You get an amperage dividend with Dings magnets. Hundreds of dead weight pounds are replaced by a greater number of ampere turns through use of Dings lightweight aluminum winding process. The result? More lifting *power* per pound of magnet weight . . . more profit in bigger payloads and an *end* to moisture and heat problems.

Write for Bulletin 1402-A, Dings Magnetic Separator Co., 4758 W. Electric Ave., Milwaukee 46, Wis.

LET Dings DO IT

GUARANTEED—same as copper wound magnets
NO INSULATING TAPE to add weight and trap moisture
STAYS COOL—high heat dissipation
RUGGED—all welded construction

For more details circle NED-445 J1 on enclosed inquiry slip

NOW
BARRETT Model HX
PALLET TRUCK

X-TRA LIGHT
X-TRA STRONG
X-TRA VALUE!

2500 and 3000 lb. capacity 4½" lift

- All-Welded Ribbed Construction
- Short Wheel Base—Maneuverable
- Simplified Hydraulic Unit
- "Flying Saucer" Pallet Entry
- Overload Protection
- Adjustable Lowering Control

MAC SAYS, "This new BARRETT HX is different from any hand pallet truck you ever used. It's loaded with features never before available in a truck of this type. And priced surprisingly low! Get the money-saving facts. Write for Bulletin 5511—*today!*"

BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Ill.
Representatives in all Principal Cities

BARRETT
One man does more than 3 or 4—with a Barrett

For more details circle NED-446 J1 on enclosed inquiry slip

INDUSTRIAL

-70°F TAPES +250°F

Stronger — lasts longer!

- Pressure sensitive heat and cold resistant
- Resist acids, alkalies, moisture, etc.
- Ideal for oxidation, radiation, testing, laboratory, electronics, etc.
- Available in plain or custom preprinted labels.

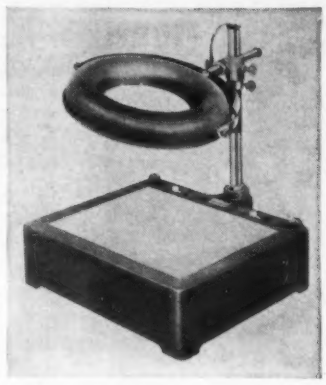
Write for complete literature and the name of your nearest TIME representative.

PROFESSIONAL TAPE CO., INC.
359C Burlington Ave. • Riverside, Ill.

For more details circle NED-447 J1 on enclosed inquiry slip

For more details circle NED-448 J1 on enclosed inquiry slip

CIRCULAR LIGHT MAGNIFIER aids visual inspection, assembly



The 3-diopter, 5-in. diameter distortion-free optic lens of this Japanese-made Model 2 circular light magnifier facilitates visual inspection, assembly and testing, and viewing negatives. With an auxiliary lens, magnification is 5 diopters. Unit has two ring lights which can be used individually or in combination. The 10½ x 8¼-in. unbreakable plastic light panel which serves as a work platform is opal-tinted for glare-free under-work illumination. Gimbal mount affords multiposition adjustment, with 6-in. vertical, 5½-in. horizontal, and 360-degree rotational movement on a vertical column. Unit is priced at $69.50. Model 1, with no bottom light, lists for $45. • **Nikon Inc.**, Instrument Div., 111 Fifth Ave., New York 3, N. Y.

For more details circle NED-450 J1 on enclosed inquiry slip

PRESSURE RELIEF VALVE checks hydraulic system overloads

Cushion type pressure relief valve provides overload protection for any actuator subject to fast reversals of load. It may also be used to protect auxiliary systems. The two independent cartridge relief valves divert flow directly to the low pressure side of the actuator, thus relieving momentary high pressure surges. Pressure is preset through spring tension on the pilot valve. At full rated flow of 30 gpm, differential is less than 100 psi from trickle to full flow. Pressure can be adjusted between 250 and 3000 psi. Two guided ball check valves prevent reverse flow. Components are encased in a tamperproof housing with ports to meet various flow requirements. Installation can be in the line between the selector valve and actuator with no return line necessary. • **Fawick Corp.**, Hydraulic-Electronic Div., 9919 Clinton Rd., Cleveland 11, Ohio.

For more details circle NED-451 J1 on enclosed inquiry slip

Efficient Warehousing With Conveyors

FREE Rapids-Standard Co.—Equipment and techniques for live storage and transportation of raw materials and finished products in various types of operations are detailed in 16-page brochure, "New Ideas in Materials Management." Methods of recognizing and solving the problem of handling are presented.

For more details circle NED-452 J1 on enclosed inquiry slip

PERECO Carbon Resistor TUBE FURNACE

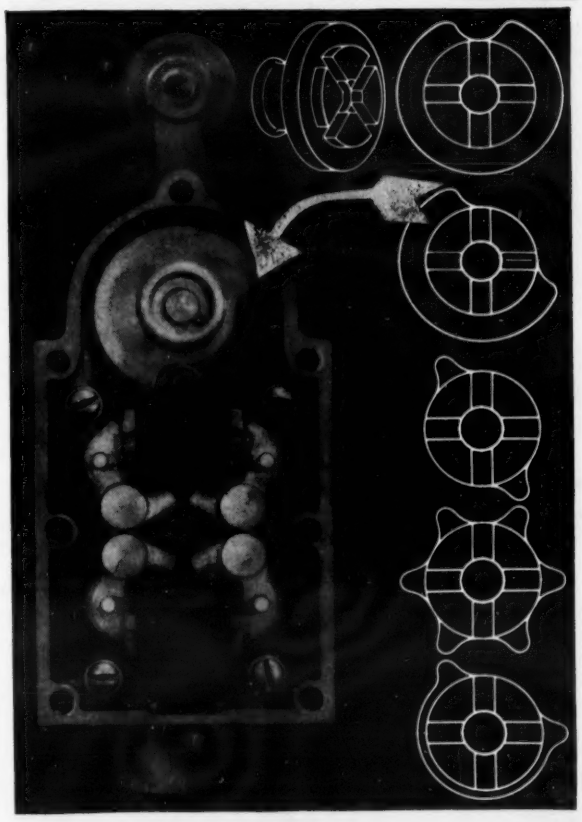
For temperators up to 5000° F

Rocket Material Research — one of many uses

This Pereco CT-412 Tube Furnace, shown installed in the laboratories of Atlantic Research Corporation of Alexandria, Virginia, is being used to research and test rocket materials. But it's equally suited to many other types of industrial or military investigations. Wide range turn-down and with capabilities for holding to plus or minus 20° F at 5000° F insures accuracy of results that can be repeatedly duplicated. Other features of this unit include: great flexibility in choice of extremely rapid or slow cycle heat-up; close control of both temperature and power input; full range, FAIL-SAFE, safety devices; and easy, low-cost element replacement. Write today for more details—or tell us of your needs, so we can advise as to available Pereco units most suitable for specific applications.

PERENY EQUIPMENT CO., INC.
Dept. G, 893 Chambers Road Columbus 12, Ohio

For more details circle NED-453 J1 on enclosed inquiry slip



the new SL-2...a standard limit switch with unlimited operating flexibility

Tailor limit switch performance to your specific job with NAMCO'S *standard* SL-2. This "machine life" limit switch features a standard cam blank which can be cut into a wide variety of configurations to meet any application. These interchangeable cams provide positive control of contact sequence; let you match switch operation to your specific job.

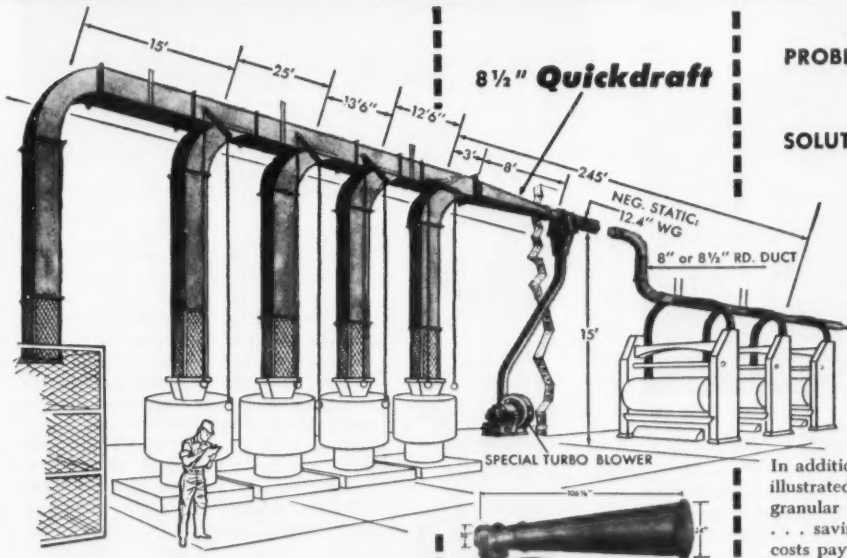
Now available for low-current, high-shock, excessive-vibration applications . . . the SLS-2 . . . with full-wiping, self-cleaning sliding contacts that insure "everytime" operation under conditions that spell machine downtime for other limit switches.

Get *all* the details on the NAMCO SL-2 line. Write for Bulletin EC-SL260, or contact one of our representatives. You'll find them in all principal cities.

National Acme
THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

For more details circle NED-454 J1 on enclosed inquiry slip



PROBLEM: High speed removal and disposal of paper trim

SOLUTION: Quickdraft VACUUM SYSTEM

VELOCITY: 7,016 FPM.
NEG. STATIC, WITH DUCT CLOSED: 19.2" WG

Quickdraft high-pressure vacuum systems have proven extremely successful, efficient and economical in solving materials handling problems. In addition to paper or plastic film trim, the system illustrated could convey any bulk, powdered or granular material that can be moved by air. And . . . savings in labor, down-time and replacement costs pay for *Quickdraft* units in 12 to 24 months!

Quickdraft units also are used for industrial exhaust systems and to increase combustion efficiency in all types of heating plants.

For recommendations on materials handling, please furnish sample of material, distance material to be moved and sketch of proposed installation.

Schematic of an actual installation in which 3" and 4" paper trim of 140 lb. basis weight (Ream 25 x 38) is continuously removed and conveyed to one of four hydro-pulpers or to screen container by an 8½" *Quickdraft* unit.

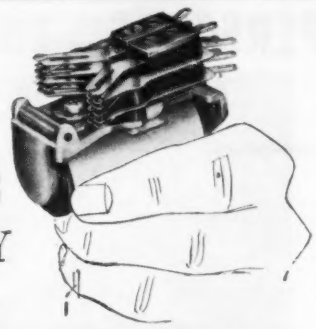
Quickdraft units with extremely high negative pressures are available in 4½" to 30" diameters in plastic-coated steel, No. 316 Stainless Steel or rigid plastics for corrosion resistance.

Patents 2,722,372 and 2,855,874 and Patents Pending plus Exclusive Foreign Patents.

Quickdraft CORPORATION
Box 1353-L Sta. C
Canton S.W., Ohio
9012-QD

For more details circle NED-449 J1 on enclosed inquiry slip

this P&B TELEPHONE TYPE RELAY will give you 100 MILLION OPERATIONS



Medium coil LS relay has bifurcated contacts and stainless steel hinge bearing that assure a minimum of 100 million operations (mechanical).

Heavy-duty frame maintains dimensional stability . . . adds to relay sensitivity and long life. Available with up to 24 springs (12 per stack). Can be furnished with either operate or release delay slugs.

SPECIFICATIONS

COIL:
Voltage: DC: to 220V.
Power: @ +25°C 65 MW/movable arm min. 5 watts max.
Resistance: DC: 55,000 ohms max.

CONTACTS:
Max. No. Springs: DC: 24 (12/stack).
Contact Material: 1/16" dia. twin palladium
Rating: 4 amps @ 115V 60 cycle resistive (100,000 cycles) DC: 4 amps 150 watts
Mechanical Life: 100 million min.

DIMENSIONS:
Min: 2 1/8 x 1 1/16 x 1 5/32
Max. 2 1/8 x 1 1/8 x 1 55/64

P&B STANDARD RELAYS ARE AVAILABLE AT YOUR LOCAL ELECTRONICS PARTS DISTRIBUTOR

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY • PRINCETON, INDIANA
IN CANADA: POTTER & BRUMFIELD, DIVISION OF AMF CANADA LIMITED, GUELPH, ONT.

For more details circle NED-455 J1 on enclosed inquiry slip

NEW! Portable Electric Bag Closing Machine

HERE is a handy little machine that makes bag closing fast, easy, and economical. It is recommended where operations are limited or intermittent and do not justify installation of large, high production machines.

LIGHTWEIGHT—9½ pounds. Carry it anywhere. No installation; requires only an electrical outlet.

POWERFUL—Direct drive motor with thumb control button. Exclusive top and bottom feed for greater power and production.

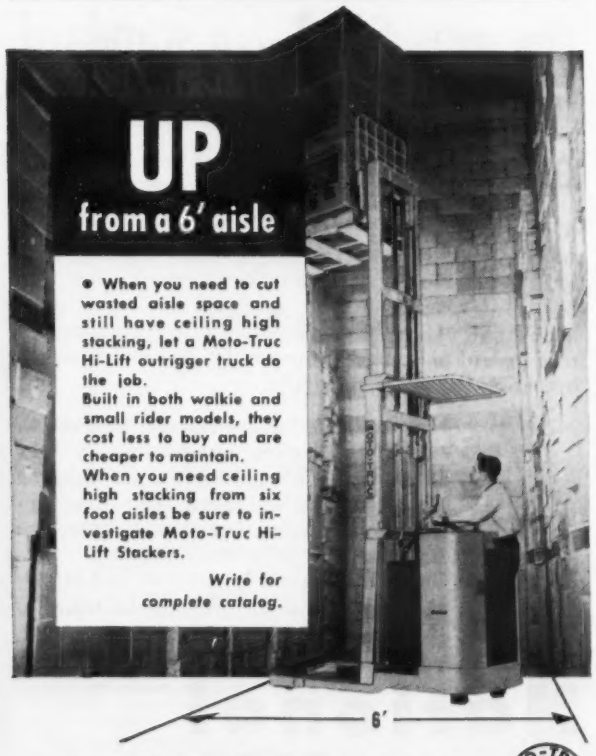
VERSATILE—Closes bags made of cotton, burlap, jute, multiwall paper, laminated paper.

SAFE—Anyone can operate it. No special training required. Comes with shoulder strap or can be obtained with overhead suspension. Send for descriptive literature.

FINEST QUALITY

Union Special® MACHINE COMPANY
416 N. Franklin St., Chicago 10, Ill., U.S.A.

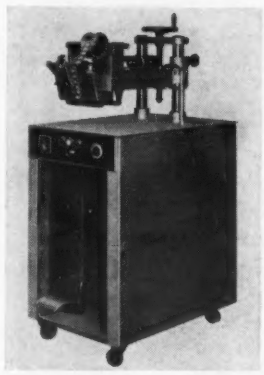
For more details circle NED-456 J1 on enclosed inquiry slip



The MOTO-TRUC Co.
12415 Taft Avenue • Cleveland 8, Ohio

For more details circle NED-457 J1 on enclosed inquiry slip

HIGH SPEED LABELING MACHINES apply 800-1000 decals per hour



High speed automatic labelers apply permanent thermoplastic and adhesive decal labels on tubing, flat sheets, and various shapes and surfaces, including plastics, rubber, leather, and cloth. Decals applied to rigid, semirigid, and flexible PVC tubing remain permanently fused to the plastic material, even after continuous abrasion, stretching, and bending. Six models range from semiautomatic portable units to automatic machines capable of applying 800 to 1000 decals per hour. The multicolored labels and decals are made to order in various shapes, sizes, and designs. • Saxton Barrett Co., Decal/Label Div., Box 1508, Altadena 81, Calif.

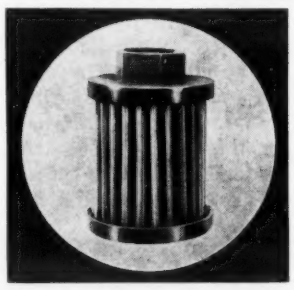
For more details circle NED-458 J1 on enclosed inquiry slip

ROTAMETER TRANSMITTERS various output signals available

Operating on an induction principle, this line of solid state electric rotameter transmitters is available with any of five direct current output signals which match requirements of most existing electric receivers or computers. Units are contained in a metal housing that is coupled to Safeguard or metal tube rotameters. Transmitters are capable of measuring and transmitting flow rates up to 200 gpm in pipelines up to 3 in., at pressures up to 600 psi. • Schutte & Koerting Co., Cornwells Heights, Bucks County, Pa.

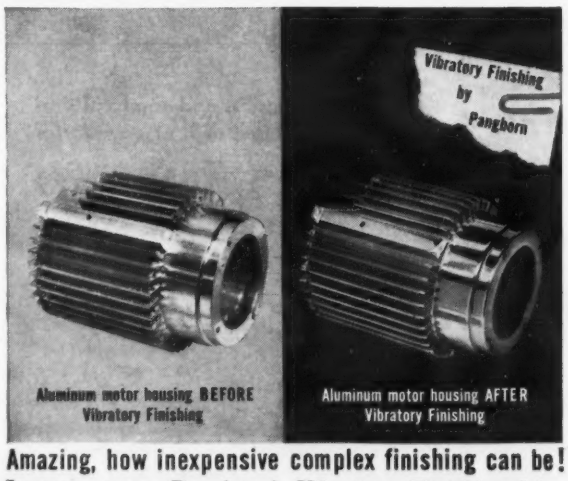
For more details circle NED-459 J1 on enclosed inquiry slip

CLEANABLE STRAINERS usable in hydraulic lines of sumps



Easily assembled and installed without tools, the Flo-Gard cleanable strainer is tightened by hand prior to use. It incorporates corrosionproof Delrin end caps, bonded by epoxy to a Monel screen and centertube. Solid welded seam of the convoluted screen assures uniform filtration. Strainer can be used as a sump or in-line cleanable strainer on all types of lubricating, cutting, and hydraulic oils, coolants, water, and aqueous and synthetic base products. • Warner Lewis Co., Box 3096, Tulsa 10, Okla.

For more details circle NED-460 J1 on enclosed inquiry slip



Amazing, how inexpensive complex finishing can be!

In some cases, Pangborn's Vibratory Finishing Machine has cut some finishing times *by over 90%*. It descales, deburrs, burnishes, radiuses, fine-finishes metal, plastic and ceramic parts . . . no matter how complex!

Exclusive air-cushioning system in every model. Variable speed controls, automated and auxiliary equipment, media and compounds available. Send parts with finish specifications for sample processing to Mr. William Brandt at:

Pangborn Corporation, 2400 Pangborn Blvd., Hagerstown, Md., Pangborn Canada, Ltd., 47 Shaft Rd., Toronto (Rexdale), Canada; or phone district office in Yellow Pages, "Sand Blast Equipment." Manufacturers of Vibratory Finishing, Blast Cleaning, Dust and Fume Control Equipment; Rotoblast® Steel Shot and Grit®.

Pangborn OF HAGERSTOWN

For more details circle NED-461 J1 on enclosed inquiry slip

TWO-WAY SPEED and ECONOMY

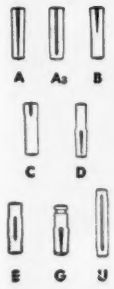
LIVE ROLLER CONVEYOR

NEW V-BELT DRIVE TRANSFORMS GRAVITY-FLOW TO POWER-DRIVEN FLOW . . . IN SECONDS!

Two conveyors in one! V-Belt drive gives positive alignment and traction; adjustable pressure wheel system minimizes line pressure. Handles all packages, pallets. 12, 18, and 24-inch widths. Write:

VERSA Corporation
BOX 152, MT. STERLING, OHIO

For more details circle NED-462 J1 on enclosed inquiry slip



Day after week after year, Driv-Lok grooved pins offer tremendous durability and resistance to fatigue, through countless vibrations, shock, and reverse cycling. Better than any other type of pin, including spring types, they stand up. And fatigue is one of the greatest enemies of fastening devices.

Driv-Lok grooved pins cost no more, yet the insurance they provide against fatigue-induced component failure makes them an extremely economical investment. Available from stock in eight standard types, plus a large variety of specials to order, Driv-Lok pins can be of real service in solving your fastening problems.

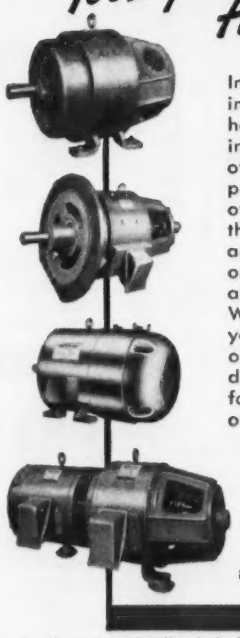
Give us a call, send us a sketch of your problem, or write for your free Driv-Lok catalog. We'd like to be of help.

DRIV-LOK SALES CORPORATION
717 Park Avenue, Sycamore 6, Illinois

For more details circle NED-463 J1 on enclosed inquiry slip

IMPERIAL D-C MOTORS

for Dependable Heavy-Duty Service



Imperial D-c Motors meet the ever-increasing demand for dependable, heavy-duty drives in nearly every industry today. Over seventy years of d-c design and application experience is behind the manufacture of these motors. Ratings from 1 through 125 hp., for constant or adjustable speeds with shunt, series or compound windings are available in all standard enclosures. When you choose The Imperial Line you are assured of motors that stay on the job longer . . . keeping production high at lower costs. Write for bulletin or contact the sales office nearest you.

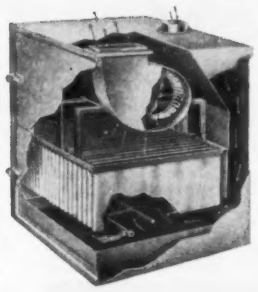
IMPERIAL ELECTRIC COMPANY
84 Ira Avenue • Akron 9, Ohio

For more details circle NED-464 J1 on enclosed inquiry slip

TORIT
DUST COLLECTORS

keep plants clean lessen employee grievances save valuable dusts

Torit Dust Collectors keep plants clean . . . an important factor in protecting employee health and morale—and in lowering absenteeism and employee grievances. Economical, too, these units are portable. They cost a fraction of central built-ins and are not limited to certain areas. They save heat by recirculating clean, filtered air. And, as in tungsten carbide manufacturing or diamond grinding operations, they pay for themselves in days with the valuable dusts they recover.



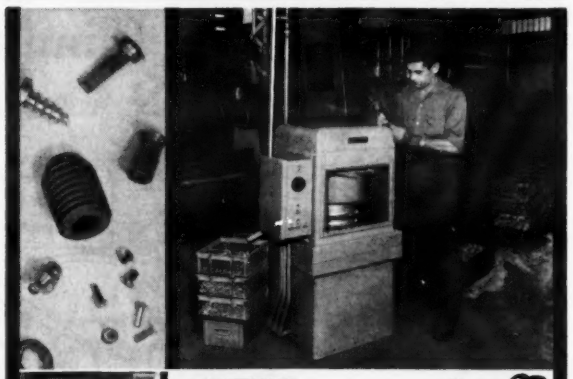
Torit Cabinet Cloth-Filter Model. High efficiency collection of all types of dust. Particles are trapped on fine-woven cloth filters—99%+ efficiency (by weight). Clean filtered air is drawn past the motor and blower to keep it cool.

Self contained, portable steel cabinets. Removable doors allow ready access to filters, motors, and blowers. Filters are chemically treated for spark resistance and sealed against leakage. These compact units give maximum filter area in smallest possible space. Capacities range up to 2100 cubic feet per minute. Larger units are built on special order. Prices start at $230.

**For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 229*

TORIT MANUFACTURING CO.
1133 Rankin Street • St. Paul 16, Minnesota

▲ For more details circle **NED-465 J1** on enclosed inquiry slip ▲



Manpro Vibras utilize a unique vibrating spiral elevator to move work rapidly up through non-flammable cleaning solvents and vapors.

NEW
VIBRA *Bantam* IN-LINE DEGREASER

This compact yet mighty degreaser (only 20 in. sq.) is priced and engineered to revolutionize production degreasing. Now, equip every small part manufacturing machine in your plant with a new Vibra *Bantam* at surprisingly low cost. Eliminate dripping tote pans. Cut manpower. Parts feed automatically, emerge chipfree, dry—ready for immediate inspection.

Write today for complete data on the New Vibra *Bantam*

MANPRO CORPORATION
26000 CAPITOL AVE., DETROIT 39, MICH.

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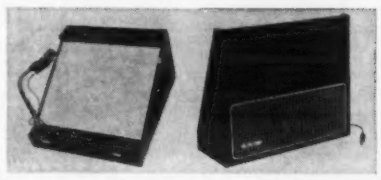
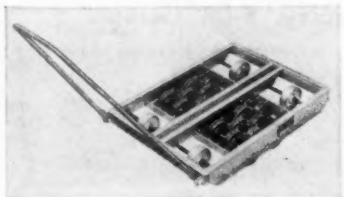
PUBLIC ADDRESS SYSTEM
portable unit is self-contained



Audiences ranging from a few persons to 500 or more can be reached by the Roving Rostrum, a battery-operated transistorized portable public address system. Inputs and outputs allow use with phonograph, radio, auxiliary speaker, or tape recorder. Either one or both of its two speakers can be used. The 10-w push-pull amplifier has a 60 to 10,000-cps response. Antifeedback speaker housings allow high volume without howls. Price of the 30-lb unit is $124.50. • **Perma-Power Co.**, 3100 N. Elston Ave., Chicago 18, Ill.

▲ For more details circle **NED-468 J1** on enclosed inquiry slip ▲

PALLET DOLLY
multiwheel type moves 2500 lb



Improvements made in Universal multiwheel pallet dolly include Gold Seal finish on the high tensile aluminum core for protection against corrosion and 6 x 2-in. rubber tired wheels with 2-in. diameter bearings. Modular dual wheel mount assemblies allow for a variation in dolly sizes. Loads up to 2500 lb are easily rolled by one man over slatted car floor racks or other rough surfaces. Use of solid aluminum tread wheels permits moving 4000-lb loads. Dolly turns right or left through 360 degrees. Sizes up to 60 x 60 in. are available. • **Roll Rite Corp.**, 801 Jefferson St., Oakland 6, Calif.

▲ For more details circle **NED-469 J1** on enclosed inquiry slip ▲

BELLOWS & ASSEMBLIES
supported and unsupported types

Pressure seals, flexible joints, and vibration dampeners in gas or liquid transmission lines are applications for Avica metal bellows and bellows assemblies. The supported and unsupported types withstand high pressure or vacuum and temperature extremes. They are offered with end fittings to requirements, single or multi-ply walls, restraining devices or smooth bore liners, and wall thicknesses from 0.002 to 0.032 in. Sizes from 1 to 12-in. ID are made in various stainless steels, Inconel, Inconel X, Hastelloy, Monel, aluminum, copper clad stainless steel, copper, and other metals. • **Avica Corp.**, Box 180, Newport, R. I.

▲ For more details circle **NED-470 J1** on enclosed inquiry slip ▲

YOU WOULDN'T DRIVE WITHOUT BRAKES...

WHY OPERATE A POWER PRESS WITHOUT "FEED-OFF"?

MACHINE FEED OFF STOP

Automatic mechanical action stops machine instantly when misfeeding or stock defects occur . . . acts as stock feed guide. Write for details.

RANDS PRODUCTS, INC. DEPT. E, WILLIMANTIC, CONN.

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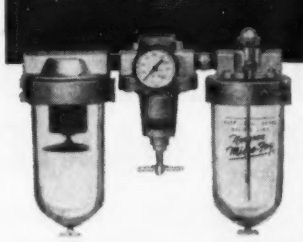
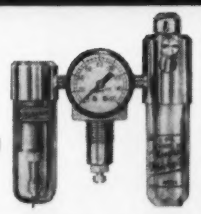
Norgren Micro-Fog Lubro-Control Units

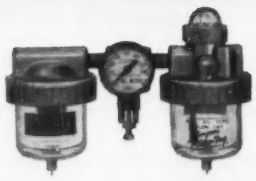
for air-tools, air cylinders and other air-powered equipment



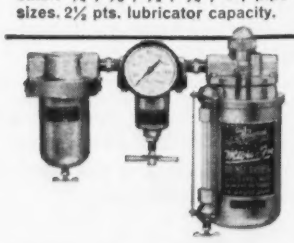
Transparent bowl manual-drain filter; pressure regulator with gauge; transparent bowl, Micro-Fog Lubricator. ¼", ⅜", ½", ¾", 1", pipe sizes. 2½ pts. lubricator capacity.



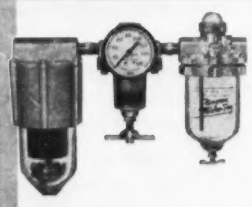
Transparent bowl filter; pressure regulator with gauge; transparent bowl Micro-Fog Lubricator. ¼" pipe size. ½ oz. lubricator capacity. Small compact unit for use where space is tight.



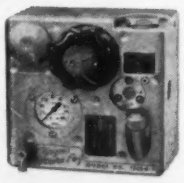
Transparent bowl manual-drain filter; pressure regulator with gauge; transparent bowl Micro-Fog lubricator. ¼" pipe size. 3 oz. Lubricator capacity.



Replaceable metal bowl manual-drain filter; pressure regulator with gauge; replaceable metal bowl, Micro-Fog Lubricator with constant oil level. ¼", ⅜", ½", ¾", 1" pipe sizes. 1 qt. lubricator capacity.



Transparent bowl automatic-drain filter; regulator with gauge; transparent bowl, Micro-Fog Lubricator. ¼", ⅜", ½", ¾", 1" pipe sizes. ½ pt. lubricator capacity.



Compact cabinet unit for air operated machine tool applications. Provides filtered air, accurate regulation and control of oil delivery, visible, adjustable oil feed. ¼" pipe size. 10 oz. oil capacity.

Shown here are a few models from Norgren's complete line of air filters, pressure regulators and lubricator units. For full information, call your nearby Norgren representative listed in your phone directory, or write for descriptive literature.

C. A. NORGREN CO.
3405 SOUTH ELATI STREET • ENGLEWOOD, COLORADO

▲ For more details circle **NED-467 J1** on enclosed inquiry slip ▲

NOW! Any old electric hammer is worth $60.00* or more trade in

on a NEW SKIL ROTO-HAMMER

Ask your Skil distributor for details. He's listed under "Tools-Electric" in the Yellow Pages. Or write: Skil Corporation, 5033 Elston Avenue, Chicago 30, Illinois. But hurry—offer is for limited time.

SKIL POWER TOOLS

**In Skil hammer accessories*

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U.S. VARIDRIVES offer 100 h.p. DESIGN KNOW-HOW from ¼ h.p. up!

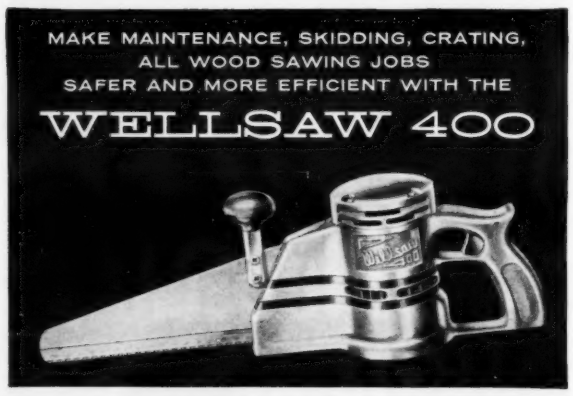
NOW, 100 h.p. VARIDRIVES! Another pioneering step! U.S. Motors offered the first VARIDRIVES 29 years ago. Ever since, U.S. design ability has kept VARIDRIVES years ahead. Not limited to 40 h.p., but offering—as long as 12 years ago— 50 h.p. Then 60... then 75... and now 100 h.p. From the ¼ h.p. model up, U.S. design ability benefits you with extra-performance features! Send for FREE Varidrive Brochure F-1797.

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, California—or Milford, Conn.

For more details circle NED-473 J1 on enclosed inquiry slip

MAKE MAINTENANCE, SKIDDING, CRATING, ALL WOOD SAWING JOBS SAFER AND MORE EFFICIENT WITH THE

WELLSAW 400



Here's a new idea in power hand saws that has the versatility to make it the ideal tool for hundreds of jobs in the plant. The Wellsaw 400 is just the good old handsaw with power applied to deliver 8000 1⅛" cutting strokes per minute without kick, pull or whip. Any user can quickly learn to do anything with it he can do with a handsaw. Safe, economical and well built, the Wellsaw 400 is a must for maintenance, crating, skidding, etc. Now available in standard 8" and special 16" capacities. See your dealer or write for descriptive bulletin.

414

Wells SAW SPECIALISTS SINCE 1925

Wells Manufacturing Corporation
1313 Harding Street • Three Rivers, Mich.

For more details circle NED-474 J1 on enclosed inquiry slip

Dependable Accuracy . . . with TRERICE

DIAL THERMOMETERS

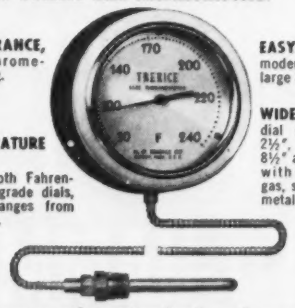
If you are after precise, dependable temperature indication, take a close look at these high-quality features of Trerice dial thermometers!

NEAT APPEARANCE, distinctive chrome-plated dial ring.

EASY TO READ, modern aluminum dial, large figures.

WIDE TEMPERATURE RANGES, available in both Fahrenheit and Centigrade dials, temperature ranges from -100° to 1000° F.

WIDE VARIETY, dial available in 2", 2½", 3½", 4½", 6", 8½" and 12" diameters with mercury, vapor, gas, solid liquid or bi-metal actuation.



All the many other standard and special option features of Trerice dial thermometers are contained in Bulletin No. 500-M. Write for your copy.

Send Bulletin 500-M.

Name .....

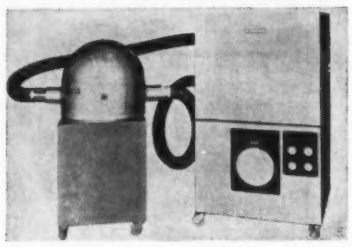
Address .....

City ..... Zone ..... State .....

H.O. TRERICE CO. 1420-C W. Lafayette Blvd. Detroit 16, Michigan

For more details circle NED-475 J1 on enclosed inquiry slip

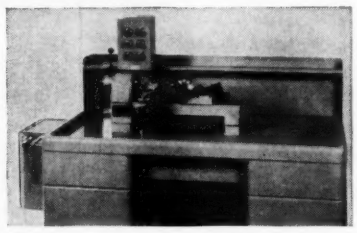
ENVIRONMENTAL CHAMBER is portable −100 to 200° F unit



Usable to check out components, parts, and products under vibration tests as well as for other applications, this portable environmental unit can be moved right to the job. A 19-in. diameter insulated dome, connected to the mobile chamber with two flexible insulated hoses, fits over the product. Temperature range is −100 to 200° F, with a pull-down to minimum temperature in 45 min. Options include other temperature ranges and hood styles, with air or water cooled refrigeration units. • **Webber Mfg. Co.**, Box 217, Indianapolis 6, Ind.

For more details circle NED-476 J1 on enclosed inquiry slip

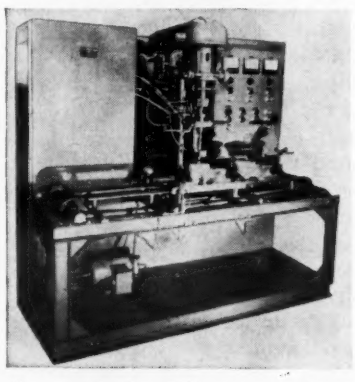
SMALL PRECISION LATHE 5/16-in. capacity, 6-in. swing



Using a 1:1 pulley ratio, speeds from 300 to 3500 rpm can be selected on Model 750 electronically-driven precision lathe. Speeds from 600 to 7000 rpm are attainable with a 2:1 pulley jump. The 25-in. long lathe has a 5/16-in. capacity with a 6-in. swing, a bed length of 22 in., with 12-in. distance between centers. Drive can be jogged and reversed by switch on the control station. It has dynamic braking and will not slow down with an increase in load due to IR drop compensation. • **F. W. Derbyshire, Inc.**, 265 Bear Hill Rd., Waltham 54, Mass.

For more details circle NED-477 J1 on enclosed inquiry slip

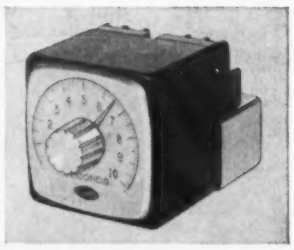
PLASTIC FOAM MOLDER produces 5 lb of foam per minute



Using a stainless steel recirculating type mixer, with air operated valves, this simplified polyurethane foam molding machine produces foam at up to 5 lb per minute. Molds are handled on a 5-ft conveyor, with an elevating platform that positions them progressively under the nozzle for filling on a 9-sec cycle. Delivery of 72 grams to mold does not vary ½ gram. No dripping occurs during mold changes. Unit requires 43 x 67 in. of floor space, plus connection to 220-v three-phase power and 80-psi air line. Panel-mounted controls, meters, and pushbuttons are within easy reach. Unit is disassembled quickly without tools. • **Sterling Alderfer Co.**, 3850 Granger Rd., Akron 13, Ohio.

For more details circle NED-478 J1 on enclosed inquiry slip

ELECTRONIC TIMER accurate to 0.005 sec



Compact, high load capacity Type 940 electronic timer has full scale time ranges of 0.1, 1, 10, and 100 sec. Interval timer, time delay relay, or cycling timer styles are available. Circuitry eliminates recycling error of the unit which has repeat accuracy within 1 per cent of full scale. Control is by sustained contact for all models, or momentary contact for the interval timer and time delay relay. Load contacts are double-make double-break, rated at 25 amp, 120 v ac resistive, or inductive with 75 per cent power factor. Switching of two single-pole double-throw or four single-pole single-throw circuits is available. Plug-in type load relay is quickly replaced. Timer is made for panel or surface mounting with standard NEMA 1 or weatherproof NEMA 4 enclosures. It requires no warm-up time and operates on 115 or 220 v, 60 cycles ac. • **Giannini Controls Corp.**, Cramer Div., Box 281, Centerbrook, Conn.

For more details circle NED-479 J1 on enclosed inquiry slip

For strength, efficiency, economy

UNION METAL

Union Metal material handling equipment is found throughout industry: increasing production line efficiency, keeping floor areas clear, making maximum use of every cubic foot of space. For detailed information on the wide range of available designs and sizes, write The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

For more details circle NED-480

Eliminat on 1

FUSETRON dual-element PLUG FUSES are time-delay fuses as recommended in the National Electrical code.

BUSS fuses are made to protect - not to
BUSS makes a complete line of fuses for home, fa electronic, electrical, automotive and industr

For more details circle NED-481

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"PUT UP THIS NEW WALL AND YOU'LL LOWER THE OF BEARING MAINTENA

Add up the costs of downtime, maintenance and bearing replacement. They may total much more than you think. So, how can you reduce them? It's easy—put up this bear maintenance chart where your crew can refer to it often.

Just look at its contents! It tells how to keep bearings lubricated • how to prevent overheating • how to protect bearings from dirt • and how to check bearings during run-in—to prevent damage and downtime later.

Every plant needs at least one copy of this bearing chart, and perhaps more. Get as many as you need. Just send the reader inquiry form inserted in this magazine. Or, ask your Authorized SKF Distributor. 6036

SKF MOTION ENGINEERING

Advanced ball and roller bearing technology

For more details circle NED-482

J1 on enclosed inquiry slip ▲

e Needless Shutdowns
25 volt Circuits—

Save money with

FUSETRON dual-element **FUSES**

"STRONGER" FUSES that won't open when motors start on normally loaded circuits.

Protection against needless interruptions of service without loss of safety.

They help keep lights burning — appliances running and save trouble and expense of useless service calls.

SWITCH FROM ORDINARY FUSES TO FUSETRON FUSES — You will be thankful you did.

BUSSMANN MFG. DIVISION
McGraw-Edison Co., St. Louis 7, Mo. 961

olow, needlessly.
rm, commercial,
ial use.

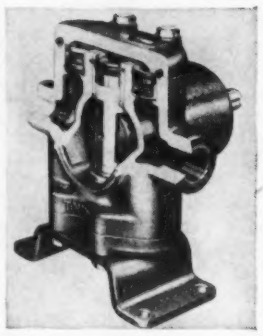
FUSETRON TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION BUSS McGRAW EDISON

J1 on enclosed inquiry slip ▲

ng man, says:
CHART...
COST
NCE!"

J1 on enclosed inquiry slip ▲

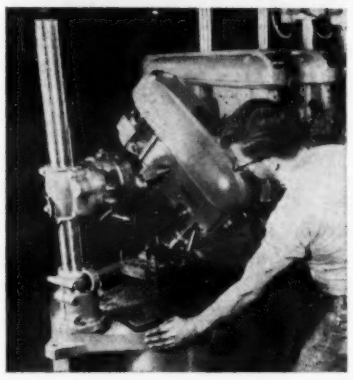
MOTOR DRIVEN PUMP
operates at up to 500 psi



Wide variety of solutions and suspension type chemicals are handled by the Small-Twin Model 5300 direct motor driven piston pump. The 9-lb unit operates up to 500 psi and is made in 2 and 3 gpm sizes, rated at a maximum speed of 1800 rpm. It has a cast iron body, stainless steel sleeves, Ni-Resist cylinder sleeves, plastic impregnated leather piston cups, and two sealed ball bearings supporting the stainless steel drive shaft. Rubber and Teflon-filled fabric cups are also available. Uses include high pressure washing, boiler feed, hydrostatic testing, atomizing liquids, pressure boosting, and steam cleaning. Larger volume models are rated to 600 rpm and 10 and 6 gpm. • **Hypro Engineering, Inc.**, 700 39th Ave. N.E., Minneapolis 21, Minn.

▲ For more details circle **NED-483 J1** on enclosed inquiry slip ▲

RADIAL DRILL PRESS
drills up to ½-in. holes anywhere in a 48-in. diameter workpiece



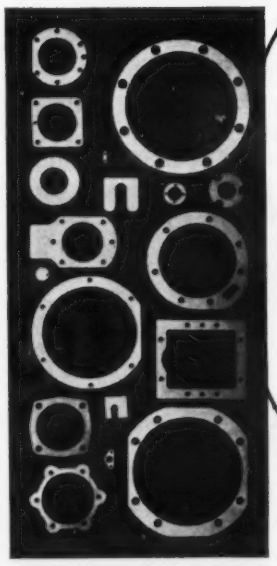
Double swivel design of the Unidrill radial drill press enables operator to position the head quickly from central control station. He can move the entire mechanism up and down on the column; swivel the mechanism 360 degrees; rotate the head around the mounting post; move the head in and out of the column; and tilt the head 45 degrees left or right.

With six interchangeable spindles or spindle adapters, tool can be readied quickly for drilling, wood planing or routing, counterboring, reaming, spot facing, sanding, and plug cutting, as well as buffing and many other operations. The 23½ x 25⅛-in. table has parallel T-slots and 1½-in. front and side clamping ledges. Multispeed attachment makes it possible to select 12 different speeds from 185 to 10,800 rpm.

Drill has ½-in. capacity in cast iron and ⅜-in. in steel. With a reach of more than 2 ft from column, it will drill a hole anywhere in a 48-in. diameter workpiece. Eight models can be obtained as bench or floor machines. Prices start at about $350. • **Rockwell Mfg. Co.**, Delta Power Tool Div., 492 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-484 J1** on enclosed inquiry slip ▲

EASY WAY TO CUT COSTS
on GASKETS, WASHERS
and SHIMS



A wide variety of dies accumulated over more than 50 years of service to industry, enables Chicago-Wilcox to supply many of your gasket, shim and washer needs without a die charge.

Whether you need just a few items or large quantities, these stock dies make it easy for you to save money and get faster delivery. Available in metallic, non-metallic and plastics to meet your production requirements.

Find out about WIL-PAK PLASTIC SHIM STOCK that identifies thickness by both color and gauge number. Write for Bulletin No. 570.

Write for Stock List and Prices.

CHICAGO-WILCOX Mfg. Co.
7713 South Avalon Avenue, Chicago 19, Illinois

▲ For more details circle **NED-485 J1** on enclosed inquiry slip ▲

A product of the Marking Device Industry

Mecco SAFETY MARKING TOOLS M.E.CUNNINGHAM CO.
1055 CHATEAU STREET, PITTSBURGH 33, PA.

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Find Out How
PRECISION BALANCING CAN PAY OFF FOR YOU

Precision balancing of your rotating machinery can increase bearing life up to 100% . . . increase seal life up to 50% . . . horsepower up to 10% . . . provide many other proven benefits. Stewart-Warner produces a full line of lowest-cost, highest-precision industrial balancers . . . portable and permanently installed models. To find the one just right for your work and your budget . . .

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Dept. CK-91, 1850 Diversey Pkwy., Chicago 14, Illinois

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SILVER EVERY FORM FOR EVERY APPLICATION

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Silver—and its alloys—are available from Handy & Harman at a moment's notice in a wide choice of forms and compositions... in standard types or prepared to your specifications.

If you have a product or process that can benefit from the combinations of high electrical and thermal conductivity, corrosion resistance and wide range of mechanical properties offered only by silver and its alloys, you'll find the Technical Bulletins listed below sources of invaluable information. Just make your selection by number—we'll send it immediately.

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SILVER-COPPER ALLOYS ..... BULLETIN A-2
SIVER-MAGNESIUM-NICKEL ..... BULLETIN A-3
SILVER CONDUCTIVE COATINGS ..... BULLETIN A-4
SILVER POWDER AND FLAKE ..... BULLETIN A-5

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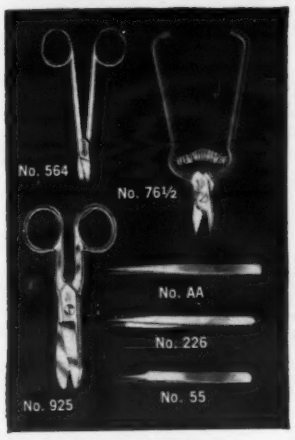


4" Fine Wire Cutter with ⅝" Cut
Standard ..... No. 564
One blade serrated ..... No. 564C
Blades curved to left ..... No. 554
Also 4¼" double chrome over nickel style with 1" cut ..... No. IS4¼SS

5" Wire Cutter with 1¾" Cut
Full nickel plated standard, No. 925
Above with 2 wire stripping notches ..... No. 925C

6½" Filament Snip with ⅝" Cut
Maximum leverage ..... No. 76½

5" Tweezers
Stainless steel with plain points ..... No. AA
Swiss imports with fine points ..... No. AAS

4¾" Tweezers
Chrome plated surgical steel with serrated points ..... No. 226
*Stainless steel with serrated points ..... No. 231

4¼" Tweezers
*Stainless steel with plain points ..... No. 55
*Stainless steel with needle points ..... No. 5
Chrome plated surgical steel with plain points ..... No. 227
*Non-magnetic

CLAUSS Precision Electronic Tools For Cost-Cutting Performance Under Production Line Conditions

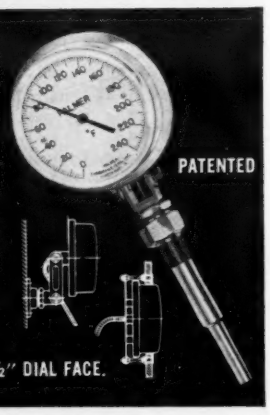
For complete details regarding these electronic tools and over 110 other Clauss scissors, shears, snips and tweezers write:

Clauss — HOT HAMMER FORGED

The Clauss Cutlery Company
FREMONT, OHIO
New York City Office: 41 East 42nd Street

For more details circle NED-490 J1 on enclosed inquiry slip

PALMER Mercury Actuated Dial Thermometers now in three types to suit any requirements



FULL 4½" DIAL FACE. Stem can be placed at any angle and case can be rotated to any readable position.

1 RIGID STEM DIAL THERMOMETER tapered bulb, interchangeable with standard industrial thermometer.

2 WALL MOUNTED DIAL THERMOMETER with flexible connecting armor.

3 FLUSH MOUNTED DIAL THERMOMETER for panel mounting.

ALL THREE TYPES HAVE A FULL 4½" DIAL FACE.

■ **for accuracy:** Mercury actuated... Compensated by Invar. Guaranteed Accurate 1 scale division. ■ **for angularity:** Can be adjusted to most readable position at any angle desired. ■ **for readability:** Bold Black Numbers ...11" of scale Reading Dial face can always be placed in easiest readable position. ■ **for interchangeability:** Also specify "PALMER" Separable sockets as they are interchangeable for Dial or Industrial type Thermometers.

PALMER
PALMER THERMOMETERS, INC.
Norwood Ave., Cincinnati 12, Ohio
Mfrs. of Industrial Laboratory, Recording & Dial Thermometers

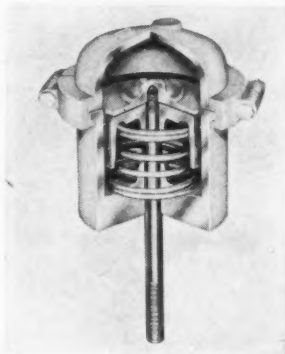
For more details circle NED-491 J1 on enclosed inquiry slip

Especially adaptable for flumes or vibrator applications. Easily interchanged with other types of Kleenslot screens without mechanical changes.

For Additional Information, Write
WEDGE WIRE CORPORATION
WELLINGTON, OHIO

For more details circle NED-492 J1 on enclosed inquiry slip

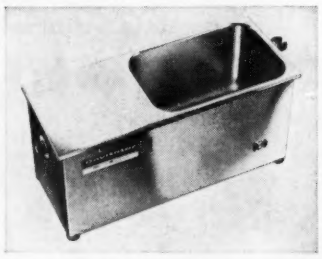
ROLLING DIAPHRAGM ACTUATORS allow up to 12-in. strokes



Fast response to small changes in air pressure, long stroke, and small diameter piston which does not touch cylinder wall are characteristics of the Rollomotor rolling diaphragm actuator. It is used for sliding stem operation of valves, rheostats, speed reducers, air clamping mechanisms, proportioning pumps, and other equipment controllable by reciprocating motion. Rolling diaphragm allows strokes up to 12 in. and high operating pressures. Types available in a range of sizes are air-to-close, spring to open; air-to-open, trapped air to close; air-to-close with positioner; and air-to-open with positioner. ● **RKL Controls, Inc.**, Hainesport Industrial Park, Hainesport, N. J.

For more details circle NED-493 J1 on enclosed inquiry slip

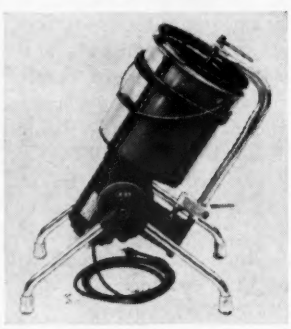
ULTRASONIC CLEANER 5-gal unit generates 4000 w



Operating from a 5-amp input, the 5-gal Cavitator 20/40 ultrasonic cleaner develops peak output of 1200 w at 40 kc and 4000 w at 20 kc. Energy is distributed evenly throughout the entire tank in both horizontal and vertical planes. Unit has an electro-strictive transducer, automatic timer, and automatic power control. Tuning is unnecessary. Unitized 14 x 9 x 9¾-in. tank and cabinet are stainless steel. Price of $860 includes drain-and-fill hose and stainless steel basket. ● **Mettler Electronics Corp.**, 114 W. Holly St., Pasadena, Calif.

For more details circle NED-494 J1 on enclosed inquiry slip

BATCH MIXER stirs, blends, folds, tumbles

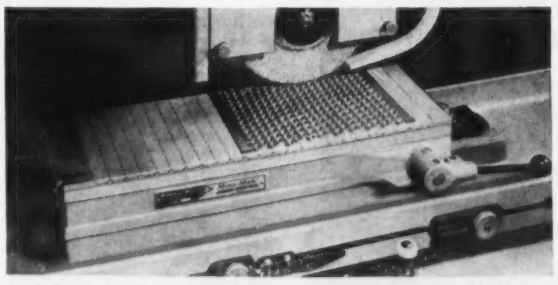


Liquids, powders, granular materials, slurries, doughs, and pastes can be handled by the M-61 Mixal, a multipurpose batch mixer. Chemicals, plastics, cements, adhesives, paints, foods, inks, latex, and tars are stirred, blended, folded, or tumbled in the portable unit. Paddles are available to scrape the side and bottom of the drum for complete mixing and to produce both radial and axial mixing action. Pail turns at 60 rpm to minimize air entrapment. Any 5-gal steel drum or the original material drum can be used. An adapter permits use of 1-gal cans. Permanently lubricated unit, built for continuous duty at full load, tilts to any of seven positions. Price is $149.50. ● **Kol, Inc.**, 2323 Ellis Ave., St. Paul 14, Minn.

For more details circle NED-495 J1 on enclosed inquiry slip

PERMANENT MAGNET CHUCK holds work only 0.001 in. thick

Close-spaced pole arrangement of the 6 x 18-in. Micro-Mesh permanent magnet chuck enables it to grip small workpieces only 0.001 in. thick. Photo shows chuck



used for grinding washer spacers to 0.025-in. thickness. Sliding tests indicate a holding power of 2½ lb per square inch for a piece 0.008 in. thick. Chuck can be loaded over its entire magnetic surface because of its uniformity of holding power. Unit is 2½ in. high, 22 7/16 in. long with lever "on," and provides a magnetic surface of 15¾ x 6 in. ● **Brown & Sharpe Mfg. Co.**, Industrial Products Div., Providence 1, R. I.

For more details circle NED-496 J1 on enclosed inquiry slip

WITH A GRACO FAST-FLO PUMP

Transport your liquids or semi-liquids to point of use with a Graco Fast-Flo Pump . . . *and show tremendous savings by cutting unnecessary plant traffic.*

Air powered, the Fast-Flo doesn't require expensive electrical wiring. Fits all standard drums.

Some plants handle up to 25 different materials this economical Graco way.

Investigate today. See how you can profit with Graco direct-from-drum transfer pumps in your plant.

GRACO ENGINEERS & MANUFACTURERS / **GRAY COMPANY, INC.**
97 Graco Square
Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle NED-497 J1 on enclosed inquiry slip

...the new ideas are from WARNER ELECTRIC

new Warner Electro-Pack Clutch-Brake Drive

New "package drive" puts automatic cycling on machines *without* engineering or machining!

Preassembled . . . prealigned . . . just bolt it down and wire it up! This Warner fractional hp clutch-brake unit is assembled complete—ready to couple to input and output shaft. No costly engineering. No time-consuming machining! *Lightweight and compact,* the Electro-Pack delivers high-cycle performance with high heat dissipation. Sturdy bearings run cooler under all conditions. *Standard Warner units* available all over the world make up this new Electro-Pack. Service is simple, fast.

WRITE TODAY FOR FULL DETAILS!

WARNER ELECTRIC
Warner Electric Brake & Clutch Co., Beloit, Wisconsin

Stocked by Distributors in Principal Cities Throughout the World.

For more details circle NED-498 J1 on enclosed inquiry slip

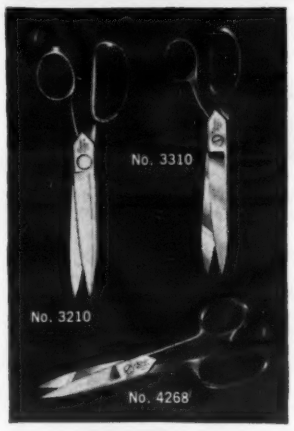
FREE

Custom Stampings from COMMERCIAL'S "Die Bank"

Bulletin 200-P3 now available. Write to Commercial Shearing & Stamping Company, Dept. J-36, Youngstown 1, Ohio.

COMMERCIAL shearing & stamping

For more details circle NED-499 J1 on enclosed inquiry slip



Adjustable Heavy Duty Straight Trimmer
10" long with 5" cut .....No. 3210
12" long with 6⅛" cut .....No. 3212

Adjustable Heavy Duty Bent Trimmer
10" long with 4¾" cut .....No. 3310
12" long with 6" cut .....No. 3312

Adjustable Heavy Duty Snip
8" long with 2⅞" cut .....No. 4268

New CLAUSS Rubber Cutting Tools of Molybdenum Outperform Others Yet Cost No More!

Hot hammer forged from molybdenum tool steel to outperform, outlast and require less resharpening than any other shears you have ever used on rubber, heavy fabric, or other rugged industrial applications. They cost no more than ordinary shears made from conventional cutlery steel.

For complete details and prices on these and 115 other Clauss scissors, shears, snips and tweezers write:

Clauss — HOT HAMMER FORGED

The Clauss Cutlery Company
FREMONT, OHIO
New York City Office: 41 East 42nd Street

▲ For more details circle NED-500 J1 on enclosed inquiry slip ▲

Gates High Capacity Drive saves up to 50% in drive space

If the belts and sheaves of a conventional V-belt drive must be replaced, or if you are designing a new drive, you can save space, weight and money by installing a Gates Super HC High Capacity V-Belt Drive. Because of exclusive design features, this new Gates drive can often cut in half the space formerly required for a V-belt drive. Drive costs are cut as much as 20%, and drive weight reduced 20% and more. Guards can be smaller. Bearing loads are less, increasing bearing life. And the drive can operate at speeds up to 6000 ft/min without dynamic balancing!

Your local Gates Representative is an experienced, fully-qualified drive design expert. Contact him for drive design help.

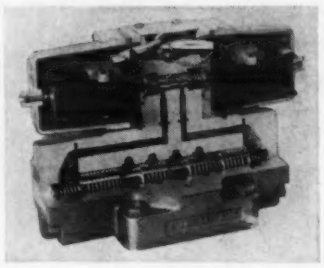
The Gates Rubber Company
Denver, Colorado
Building the future on 50 years of progress
BP 20

Gates

Gates Super HC V-Belt Drives

▲ For more details circle NED-501 J1 on enclosed inquiry slip ▲

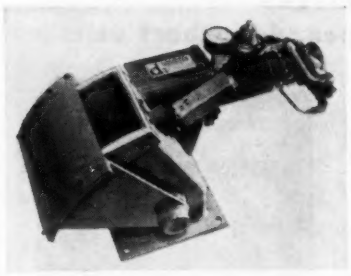
FOUR-WAY CONTROL VALVES for pressures up to 3000 psi



An internal drain that eliminates the need for an external drain line and a fifth port is featured in series of piggyback four-way directional control valves. Units are offered in ⅛, ⅜, and ¾-in. sizes and are designed to meet a variety of applications with pressures up to 3000 psi. Full pressure at all ports, including the drain, is permissible. Flow control manifold adapts to the valve base for metering the speed of single or double-acting cylinders or fluid motors. Available optionally are pilot choke and spool stroke adjustments. • **Racine Hydraulics & Machinery, Inc.**, 2000 Albert St., Racine, Wis.

▲ For more details circle NED-502 J1 on enclosed inquiry slip ▲

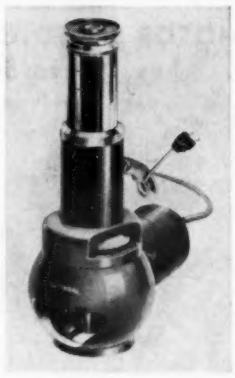
SWING GATE FEEDER power actuated for remote control



Self-cleaning swing gate feeder controls the flow of free-flowing materials into automatic weighing systems or continuous process streams. It is available with two-position full on-off control or with modulated feed control to obtain full flow to cutoff with modulated response. Models available have inlet sizes from 4 x 4 in. to 6 x 6 in. with flow rates to 4000 lb or 40 cu ft per minute of dry sand. Larger and smaller sizes will be offered. • **Dynametrics Corp.**, Northwest Industrial Park, Burlington, Mass.

▲ For more details circle NED-503 J1 on enclosed inquiry slip ▲

ILLUMINATED MICROSCOPE measures linearly to 0.0005 in.



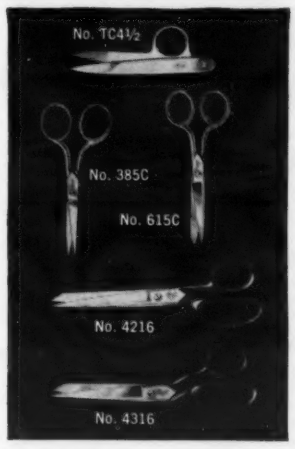
On-the-spot linear measurement of fibers, micro-organisms, abrasives, cracks and flaws, or hole sizes can be made with this pocket-size illuminated measuring microscope. Zoom-type magnification is continuously variable from 27X to 40X, 55X to 80X, or 82X to 120X. Measuring scales read directly to 0.002, 0.001, or 0.0005 in. and 0.02, 0.01, or 0.005 mm. Power range and scale desired can be selected by interchanging eyepieces. Microscope is supplied both with an integral flashlight illuminator and a transformer that plugs into 110-v ac. Unit equipped with a 10X objective and 5X eyepiece, is priced at $49.50. • **National Instrument Co.**, 4119-4127 Fordleigh Rd., Baltimore 15, Md.

▲ For more details circle NED-504 J1 on enclosed inquiry slip ▲

HEAVY-DUTY FORK TRUCKS handle 12,000-lb loads at 5-6 mph

Greater maneuverability and stamina while handling 10,000 and 12,000-lb loads are engineered into the Spartan F-52T Series of heavy-duty electric fork trucks. Major components of both models are designed to handle 12,000-lb loads, and only minor changes are made when truck rating is reduced to 10,000-lb capacity. When fully loaded each model can travel at 5 to 6 mph and lift at speeds to 32 fpm. Units are designed for 36, 48, or 60-v power supply. Compartment accommodates a 1280 HA battery, sufficient for an 8-hr operating shift. They have automotive type controls, four speeds forward and reverse, and power steering. • **Elwell-Parker Electric Co.**, 4205 St. Clair Ave., Cleveland 3, Ohio.

▲ For more details circle NED-505 J1 on enclosed inquiry slip ▲



Thread Clip
4½" long with 1¼" cut ..No. TC4½

Double Sharp Blade Points
5" long with 2⅛" cut .....No. 385C

Sharp and Blunt Blade Points
5" long with 2⅛" cut .....No. 615C

Straight Trimmer
6" long with 2¾" cut .....No. 4216
7" long with 3¼" cut .....No. 4217
8" long with 4" cut .....No. 4218

Bent Trimmer
6" long with 2¾" cut .....No. 4316
7" long with 3¼" cut .....No. 4317
8" long with 4" cut .....No. 4318

CLAUSS Chrome Over Nickel Scissors and Shears Eliminate Rust Spot Risk During Textile Cutting

For complete details and prices on these and over 110 other Clauss scissors, shears, snips and tweezers write:

Clauss — HOT HAMMER FORGED

The Clauss Cutlery Company
FREMONT, OHIO
New York City Office: 41 East 42nd Street

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½ TON to 7 TON
for
- MARKING
- SWEDGING
- ASSEMBLING
- FOLDING
- CRIMPING
- DIE CUTTING
- HEAT SEALING
- STACKING
- FORMING

OLSENMARK POWER PRESSES

Square Rams — prevents rotation of head, assures accurate registration Adjustable Gap — head raises and lowers on ½ ton presses, table raises and lowers on larger models • Long Head Strokes — easier to set up and feed • Adjustable Ram Speed and Pressures • Double Toggle Head action on larger models • Rugged, cast iron, "C" frame construction • Hand lever included for setting up air machines • Two way air cylinders and four way control valves • Hand operated presses can be later converted to air in your plant.

Write for Complete Literature

SINCE 1924
KENSOL-OLSENMARK, INC.
124-132 WHITE STREET • NEW YORK 13, N. Y.
Telephone: CAnal 6-3384
MANUFACTURERS OF KENSOL ROLL LEAF STAMPING EQUIPMENT . . . HAND, POWER AND AUTOMATIC

▲ For more details circle NED-507 J1 on enclosed inquiry slip ▲

Automark®
Air Operated and Electrically Controlled HOT STAMPING MACHINE

Ram pressure from several ounces to 1200 pounds squeeze.
Temperature control to 600°F.
Time dwell controls from fraction of a second to several minutes.
Micro or foot switch actuation.
Stamping head may be raised or lowered on the column.
Foil Feed is automatic and adjustable.
Dial feed shown is optional.

MODEL SRS-B
Weight 150 pounds
Dimensions:
20" tall,
15" wide,
18" deep

DEFIANCE
MACHINE & TOOL COMPANY
1920 S. VANDEVENTER QD ST. LOUIS 10, MO

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An entirely new line of safety caps and hats—M-S-A® TOP-GARD®—is available now in a remarkable new material.

It is injection molded from one of the new exotic high-impact engineering thermoplastics: polycarbonate.

This marks the first time polycarbonate—combining the impact strength of metal and the natural resilience of plastic—has ever been incorporated into the manufacture of a safety hat. Ask for a convincing demonstration.

And write for descriptive new bulletin.

MSA

MINE SAFETY APPLIANCES COMPANY
Pittsburgh 8, Pennsylvania

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GAS METERING

Ceramic company uses Shuntflo meters to tell exactly where and how much natural gas is used in curing-process ovens . . . to provide accurate totals in cubic feet of gas distributed in main lines or consumed in any process.

Self-contained unit can be installed in any line . . . requires no auxiliary equipment . . . has no stuffing box . . . accuracy within ± 2% of actual flow over 10:1 range. Performance-proved in metering steam, air, fuel gas, natural gas, oxygen, nitrogen, hydrogen, argon, CO_2, CO, SO_2, etc.

For complete data, request Bulletin 400.20-1.
Write **B-I-F Industries, 425 Harris Avenue, Providence, Rhode Island.**

B-I-F Industries
A DIVISION OF THE NEW YORK AIR BRAKE COMPANY
METERS • FEEDERS • CONTROLS / CONTINUOUS PROCESS ENGINEERING

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SHOPMOBILE

PAYS FOR ITSELF IN 90 DAYS!

SAVES MANY HOURS OF MAINTENANCE TIME—SAVES TRIPS—SPEEDS WORK

TAKE THE WORKSHOP TO THE WORK

Only $249.00
F.O.B. Factory, Cardington, Ohio
Ready to Operate
Finish Painted

SHOPMOBILE is an all-steel welded workshop on wheels with roomy storage compartments that can be locked and workbench surfaces at working height.

Free-rolling solid rubber tires

MECHANIZE YOUR MAINTENANCE DEPARTMENTS! WRITE TODAY FOR FULL INFORMATION.

STAHL METAL PRODUCTS, INC.
4750 W. 160th St. • Cleveland 35, Ohio
TELEPHONE: WInton 1-2377

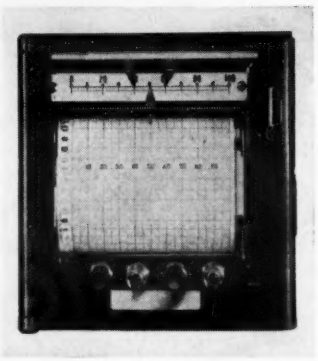
▲ For more details circle NED-511 J1 on enclosed inquiry slip ▲

CURVED CONVEYOR BELT
inlaid steel rods keep it flat

All radial stresses in the Curve-Flo conveyor belt are distributed along the inside edge by restraining idlers to eliminate carcass strain and distortion. Designed for power turns in conveyor systems, the curved belt is inlaid with radial steel rods that keep it flat on the conveyor bed at high speed. The rods are set in a replaceable channel of polyurethane rubber to protect against edge wear. Continuous flow of products is maintained around a corner, with packages in transit keeping the same position on the second belt as on the first without contact with side frames. Belt is being incorporated in equipment by several manufacturers. • **Goodyear Tire & Rubber Co.**, 1144 E. Market St., Akron 16, Ohio.

▲ For more details circle NED-512 J1 on enclosed inquiry slip ▲

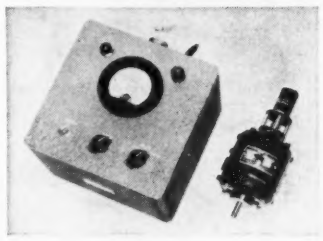
TELEMETER RECEIVERS
one or two-pen, 4-in. chart units



Series 670 four-in. chart telemeter receivers will fit any Metameter telemetering system and has one or two pens. Each pen is available with one or two retransmitting slidewires and a maximum of four individually adjustable alarm contacts, each with an individual scale. Two of the maximum eight alarm contacts can be set from the front. Brightly colored pointers, a new capillary inking system, and a removable chart drive are among features. • **Bristol Co.**, Box 1790, Waterbury 20, Conn.

▲ For more details circle NED-513 J1 on enclosed inquiry slip ▲

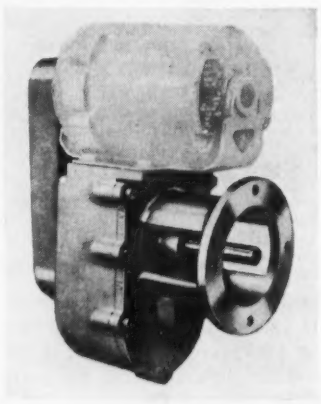
MOTOR SPEED CONTROL
has 100 to 5000-rpm range



Shaft speed is indicated on panel meter of Model 309-A solid state motor speed control which drives a 1/20 hp motor directly from a 60 cps line. A tachometer stabilizes the shaft speed against changes in line voltage and load. Control will reverse and dynamically brake the motor for fast stops. Shaft speed range is from 100 to 5000 rpm with minimum load torque of 10 oz-in. at any speed. Maximum power drain is 150 w. Speed remains constant within 2 per cent with any load. Control can be furnished with mating gear boxes for different shaft speeds, and is usable on machine tool spindle drives and servo directors or as a laboratory source of variable speeds. • **Industrial Control Co.**, Central Avenue at Pinelawn, Farmingdale, L. I., N. Y.

▲ For more details circle NED-514 J1 on enclosed inquiry slip ▲

SPEED REDUCER
900:1 reduction ratio possible



Although designed to operate on a polyphase motor, the BarnesdriL spur gear speed reducer can be used successfully on a 110-v, single phase motor. Unit provides ratios of 450:1 with a 1750-rpm motor and 1:1 pulley ratio; and a 900:1 reduction with 1:2 pulley ratio. A wide range of reduction ratios is available. Designed for continuous performance, unit may be vertically or horizontally mounted. • **Barnes Drill Co.**, Speed Reducer Div., 814 Chestnut St., Rockford, Ill.

▲ For more details circle NED-515 J1 on enclosed inquiry slip ▲

Biggest News in Protective Coatings Since 1942...
AMERCOAT No. 99

Amercoat No. 99 offers the time tested protection of vinyl coatings plus virtually foolproof application with cost reductions of up to 42%!*

For application with either airless spray or conventional spray equipment, No. 99 is a companion coating to Amercoat No. 33, the *first* practical vinyl maintenance coating. Introduced in 1942, No. 33 is...after 18 years...still protecting more than 200 million square feet of steel structures in the severest corrosive environments. And now, through exclusive Amercoat technological developments, you can have the proven protection of No. 33 PLUS the cost-cutting advantages of No. 99.

- **Highest solids content of non-mastic vinyls**
- **Applied by airless spray, one cross sprayed coat easily produces a dry film thickness of 6 mils**
- **Applied with conventional spray equipment, dry film thickness of 5 mils is obtained with just two coats**
- **Labor savings of more than 50% have been reported, with material costs cut 35%**
- **Can be applied directly over Dimetcote, giving a two coat system unequalled by any comparable system**
- **Recommended for use on all types of structural steel, tank exteriors and ships' hulls**

You may obtain complete technical data including a cost analysis showing savings you can realize with this coating by writing to Amercoat Corporation, 4809 Firestone Boulevard, South Gate, California.

*Documented user report furnished on request

Amercoat CORPORATION 128B
Dept. ZU, 4809 Firestone Boulevard
South Gate, California

921 Pitner Ave. Evanston, Ill. | 360 Carnegie Ave. Kenilworth, N.J. | 111 Colgate Buffalo, N.Y. | 2404 Dennis St. Jacksonville, Fla. | 6530 Supply Row Houston, Tex.

▲ For more details circle NED-516 J1 on enclosed inquiry slip ▲

SAVE ON FREIGHT ELEVATORS

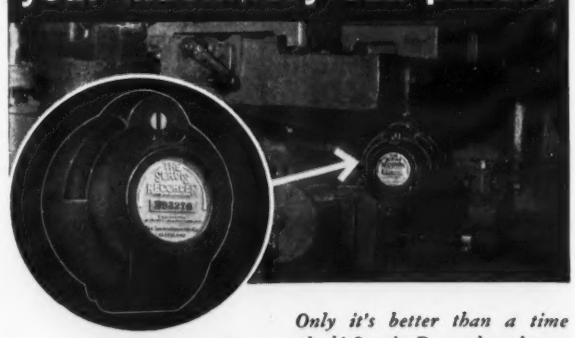
Rotary® Oildraulic® Elevators

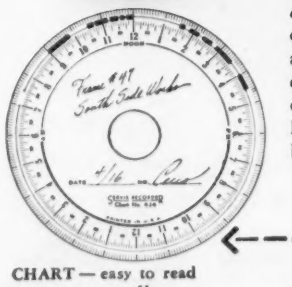
Dependable hydraulic power is applied directly to the load for maximum efficiency and dependability. No cables to replace, no overhead machinery penthouse or load-supporting sidewalls. Thus, lower installation costs, lower operating costs. Capacities to 100,000 lbs. or more. Write for catalog.

DOVER DOVER CORPORATION, *ELEVATOR DIVISION*
1028 Kentucky, Memphis 2, Tenn., Chatham, Ontario

▲ For more details circle NED-517 J1 on enclosed inquiry slip ▲

Here's a time clock your machinery can punch!





Only it's better than a time clock! Servis Recorder shows every minute of working time and loafing time your machinery puts in. Circular charts are recorded with fine lines for down time and wide bands for productive time.

CHART — easy to read . . . easy to file.

With **SERVIS RECORDER** you know exactly how much work you get from every machine.

THE SERVICE RECORDER COMPANY
1013A Rockwell Ave., Cleveland 14, Ohio

▲ For more details circle NED-518 J1 on enclosed inquiry slip ▲

How to select WORM GEAR Drives FREE TO DESIGN ENGINEERS

NEW Bulletin 218

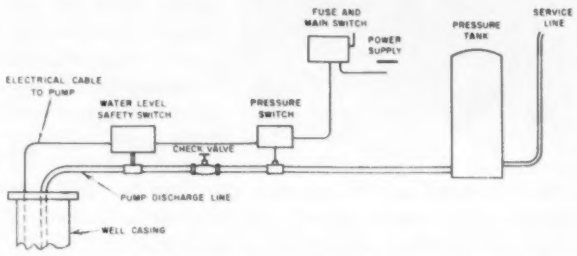
Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle NED-519 J1 on enclosed inquiry slip

WATER LEVEL SAFETY SWITCH mounts on pump discharge line to prevent damage to pump equipment

Pump bearings, packing glands, and motor windings depending upon pumped water for lubrication and cooling are protected from damage due to insufficient



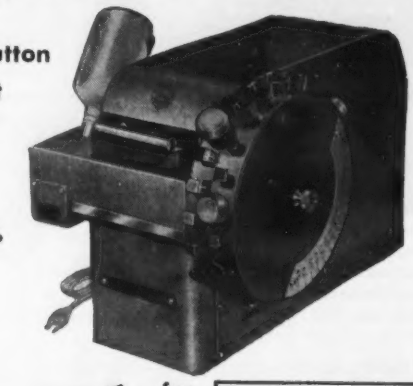
liquid or loss of pump prime by this water level safety switch. Device mounts on the pump discharge line to sense liquid flow by measurement of discharge pressure. It is connected in series with the pump motor power supply and automatically shuts the system down when water level gets too low.

If after a predetermined period of time, pump discharge is not at a specified pressure level, a Micro switch electrically disconnects the pump motor. Automatic cycling of the pump is initiated at frequent intervals until the required conditions are satisfied by the system flow capacity. • **American Machine & Metals, Inc.**, United States Gauge Div., Sellersville, Pa.

For more details circle NED-522 J1 on enclosed inquiry slip

FREE TRIAL in your plant

THE IDEAL 200-E ELECTRIC CLIP-A-TAPE



- Push a button get the exact tape length desired!
- Save 20% to 40% in time and tape!

IDEAL for free trial

SEE THE YELLOW PAGES FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

STENCIL MACHINE CO.
134 IDEAL BLOCK, BELLEVILLE, ILLINOIS

For more details circle NED-524 J1 on enclosed inquiry slip

BIRD DAMAGE USED TO COST MILLIONS

NEW MARK IX

BIRD REPELLER

360° REVOLVING LIGHT BEAMS
rout birds in warehouses, graneries, hangers, plants

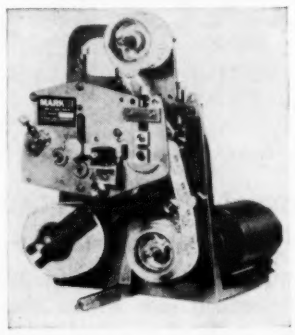
Damage to steel, grain, plant equipment and warehoused goods totals millions of $$$ annually. NOW it's easy and inexpensive to get rid of birds for good . . . *results guaranteed!* Designed especially for indoor use, the MARK IX flashes 200 intense alternate-color beams per minute. Pounding light beams and frightening shadows chase the birds—prevent nesting and feeding. Corrosion-proof, lifetime housing; 115 V or 220 V; 1500 hour bulb; easily installed.

Write for free literature

TRIPP LITE
Famous Since 1922
Division of TRIPPE MFG. CO.
133 N. Jefferson St., Dept. NED, Chicago 6

For more details circle NED-520 J1 on enclosed inquiry slip

LABEL & TAPE PRESS prints, die cuts, and rewinds up to 150,000 labels per hour



Companies using large volume of pressure-sensitive labels, or requiring various copy changes can make use of the Mark II label and tape press. Mastered by unskilled personnel after a few minutes instruction, it prints, die cuts, removes waste, and rewinds pressure-sensitive labels or tape automatically at speeds to 150,000 labels per hour. Machine performs all necessary operations using plain tape or label stock.

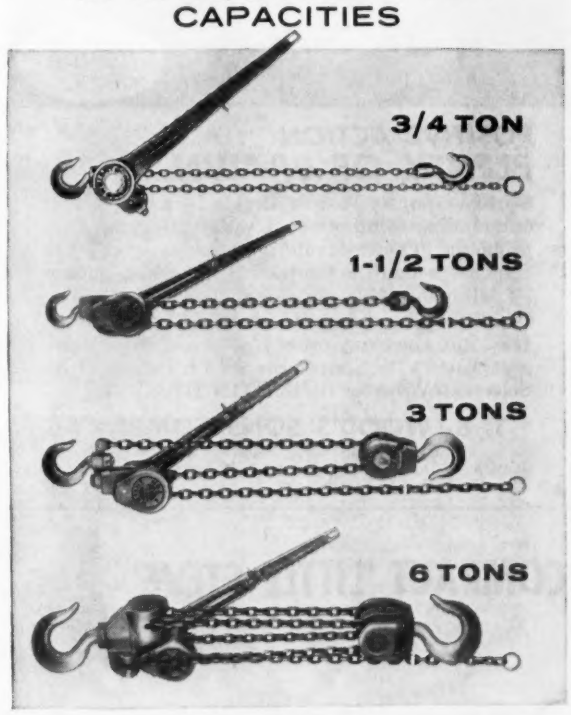
Locally available flexographic plates used will reproduce any copy, including halftones. Plate changes are made in less than 15 sec, and cutting dies are changed in 1 min. Any size or shape of label up to 2¼ x 12 in. can be printed on a variety of materials, including Kromekote paper, gold and silver foils, metallized Mylar, cotton cloth, vinyl, and gummed and heatseal paper. Fast drying ink is available in 37 standard colors, or exact shades can be matched. Table mounted unit costs $1995. • **Columbia Label Corp.**, 4755 N. Talman Ave., Chicago 25, Ill.

For more details circle NED-523 J1 on enclosed inquiry slip

NOW...Made of Aluminum!

WRIGHT Type "C" Pull-A-Ways

IN ¾, 1½, 3 AND 6 TON CAPACITIES



For easier portability at no sacrifice in proved performance, Wright now uses aluminum alloy castings for the gear case, handle and covers on all models of the Type "C" Pull-A-Way. Hooks, load chain and chain sheave are made of alloy steel as before. Truly versatile performers on hundreds of quick hook-up jobs, Type "C" Pull-A-Ways offer other outstanding features such as: positive load brake that securely holds the load at any point, lifetime lubrication of all internal parts, blocked chain to fit the load sheave with greater accuracy. Weights: ¾ ton, 12½ lbs.; 1½ ton, 23½ lbs.; 3 ton, 36½ lbs.; 6 ton, 63 lbs.

Write to our York, Pa., office for Bulletin DH-56

WRIGHT HOISTS

Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-525 J1 on enclosed inquiry slip

COMPARE ✻ and you'll get a BIG NEW Johnson

model J HEAVY DUTY METAL CUTTING BAND SAW

Capacity—10" rounds, 18" flats • *Motor*—¾ hp (Any voltage available) • *Wheel Diameter*—16" • *Floor Space*—66" x 31" • *Bed*—11 wide, 44" long, 6" deep, 24" high • *Overall Height* (closed)—39" • *Weight*—Approx. 750 lbs. • *Speeds*—36, 90, 130, 190 feet per minute.

✻ **COMPARE** the handsome, husky Johnson Model J with any metal cutting saw and here's what you'll find:

- *Johnson leads the way in dependable, well-engineered, high performance band saws.*
- *A Johnson saw will cut anything in your stock pile, and do it faster.*
- *Johnson saws contain more exclusive construction and performance features that save time and money.*
- *Johnson saws are the finest metal cutting machines available anywhere—and, at the lowest price!*

COMPARE . . . and see for yourself how easily you can save time, labor and production dollars with a Johnson saw. Complete information, prices—are yours for the asking.

Johnson MANUFACTURING CORPORATION
Barnes & Taylor Sts., Albion, Michigan

Eastern Distributor	Midwestern Distributor	Western Distributor
R. J. R. KELLY CO.	W. Q. LUNDMARK	HASTINGS DISTRIBUTORS
Hale Bldg., 51 Main St.	75 N. Broadway	1605 Solano Avenue
East Orange, N. J.	Des Plaines, Ill.	Berkeley, Calif.

For more details circle NED-521 J1 on enclosed inquiry slip

NEW JUNIOR SIZE VIBRA-WASHER

The new Simplicity Junior Size Vibra-Washer employs a vibrating work carrier that automatically conveys metal parts through a cleaning or conditioning bath. It cleans so thoroughly that chips, oil and grease are removed from even blind or slotted openings; cleans so gently even the most delicate threads or flanges are not harmed.

If you have a tough cleaning or conditioning job, Simplicity Engineering Company can help. For information, write or call the Industrial Washer Division.

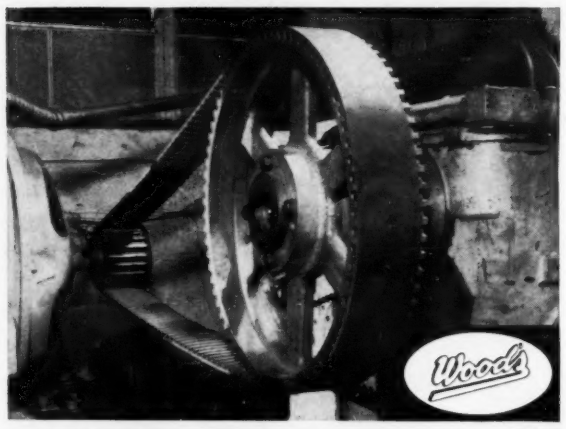
223

Simplicity TRADE MARK REGISTERED

ENGINEERING COMPANY • DURAND 15, MICH.

FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

For more details circle **NED-527 J1** on enclosed inquiry slip



TDF/61

POSITIVE ACTION PLENTY OF BRAWN

Sturdy, compact Wood's Timing Belt Drives offer outstanding solutions to a wide variety of drive problems. They provide instantaneous, slip-free response; require no lubrication, no take-up devices . . . eliminate belt matching. Speed range, 0 to 16,000 fpm. Load capacity, up to 600 hp and above. Look into the many other cost-saving advantages, plus Wood's "5 Simple Steps" to Timing Drive Selection. Write for BULLETIN 21103.

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA
ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

For more details circle **NED-528 J1** on enclosed inquiry slip

COMPACT 'LITTLE STEVE'

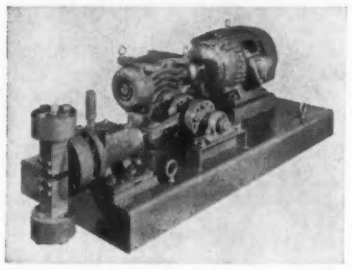
PRECISION-PLATES OR PROCESSES SMALL PARTS AUTOMATICALLY!

Only 4 feet high by 6 feet wide, 'Little Steve' is the smallest, completely automatic barrel plating machine available. It offers top mechanical flexibility to meet all of your precision finishing requirements; is inexpensive to buy, install and maintain. Features low ceiling height, light floor load, oblique barrels that require no lids, automatic loading and unloading. Designed for integrated process manufacturing. Keeps solution and anode requirements at a minimum. Investigate 'Little Steve' today, start cutting your plating costs **NOW!**

FREDERIC B. STEVENS, INC • DETROIT 16, MICH.

For more details circle **NED-529 J1** on enclosed inquiry slip

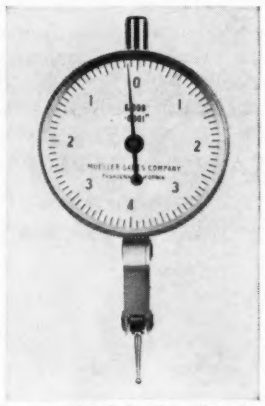
CORROSIVE SLURRY PUMP
delivers from 1½ to 6 gpm



Diaphragm - type Model 150-7 Kemlon Pump for handling corrosive slurries at up to 3000 psi delivers 1½ to 6 gpm. Pump employs an actuating fluid between the piston and diaphragm without mechanical linkage. All surfaces which contact the corrosive media are Teflon and inert metals. Reliable seating of the valve cone is achieved by self-cleaning action of the cone closing on a hardened edge. Cast steel water-cooled housing permits high temperature and high pressure service. Pump weighs 870 lb, measures 2 x 4½ ft x 20 in., and has a 5-hp explosionproof motor. Price is $2785. • **Keystone Engineering Co.**, Box 14366, Houston 21, Tex.

For more details circle **NED-530 J1** on enclosed inquiry slip

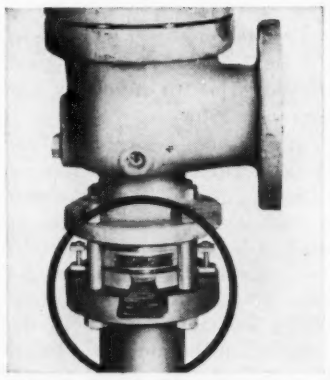
DIAL INDICATORS
have easy-to-read 2-in. dial



After being subjected to a 1 million cycle test, these 2-in. dial test indicators repeated within 0.00002 in. They feature ball bearing action, geared mechanism, extreme sensitivity, easy-to-read graduations, and have a measuring pressure of about ½ oz. Graduations of 0.001, 0.0005, and 0.0001 in. are available, as are carbide tips for resistance to wear. • **Mueller Gages Co.**, 1052-58 N. Allen Ave., Pasadena, Calif.

For more details circle **NED-531 J1** on enclosed inquiry slip

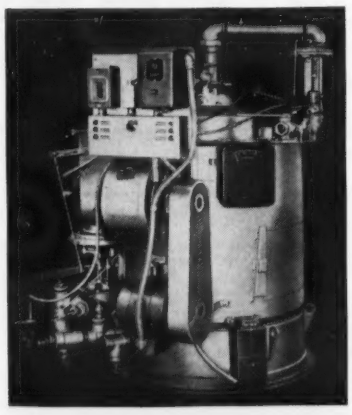
RUPTURE DISC HEADS
protect systems from overpressure



Quik-Sert safety heads which nest within the studs of standard ASA flanges contain a rupture disc to protect vessels or systems from overpressure. Installed underneath a safety or relief valve, they eliminate normal vapor losses through the valve. Variety of materials and ratings is available. Sizes to mate with 150-lb ASA flanges range from 1 to 24 in.; for 300-lb flanges, 1 to 12 in.; and for 600-lb flanges, 1 to 6 in. Also offered is the full diameter type in which flange diameter and bolting matches standard ASA pipe flanges. Outlet flanges are tapped to receive an excess flow valve and "tell-tale" pressure gage. • **Black, Sivalls & Bryson, Inc.**, 7500 E. 12th St., Kansas City 26, Mo.

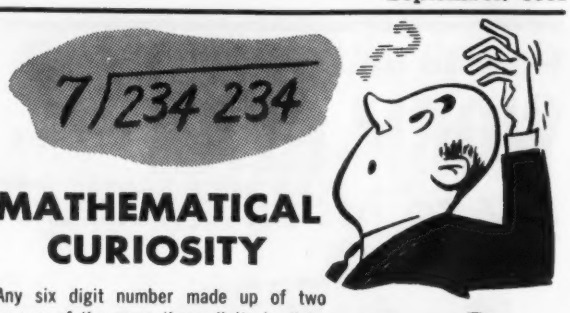
For more details circle **NED-532 J1** on enclosed inquiry slip

STEAM SUPERHEATER
rated 5000 lb per hour at 600 psi



Automatic operation, pneumatically operated temperature control, and electronic outfire control protection are among features of this 1 million Btu, separately fired, steam superheater. The gas or oil fired packaged unit is rated 5000 lb per hour at 600 psi. Design temperature is 1000° F with stainless steel coil and 600° F with alloy steel coil. Operating temperature range is 250 to 975° F. Air failure protection is provided in the single-pass unit by an air flow interlock switch. Models are offered for 220 or 440 v three-phase ac operation. • **Vapor Heating Corp.**, 80 E. Jackson Blvd., Chicago 4, Ill.

For more details circle **NED-533 J1** on enclosed inquiry slip



MATHEMATICAL CURIOSITY

Any six digit number made up of two groups of the same three digits is divisible by seven, i.e.: 7 | 123 123 Try it!

All brush applications fall into one of three categories: applying, arranging, removing.

Try your brush needs in these three basic categories — you'll find they fit. Try Jenkins' METLKOR in all your brush applications. You'll find they not only fit, but contain a magic divisor too. American industry has been relying on Jenkins' for dividing brush problems for nearly 100 years. Pose your brush problem . . .

Send for NEW CATALOG

JENKINS METLKOR BRUSH

Specify Jenkins' METLKOR—the original—the best *Metal Core* brush

METLKOR® CYLINDER BRUSHES and LIFEWOOD® WOOD BACKED BRUSHES

M. W. JENKINS' SONS, INC.
Serving Industry For Almost 100 Years
P.O. Box 68, Dept. 15B, Cedar Grove, Essex County, N. J. • CEnter 9-5150

For more details circle **NED-534 J1** on enclosed inquiry slip

New!...LOW PRICED HYDRAULIC POWER UNIT

- Compact
- Provides easy control of attachments on tractors or machinery

Hein-Werner HYDRO-UNIT is completely self-contained

Hein-Werner Hydraulic Power Units are complete with pump, valve, and reservoir. Gear pump delivers up to 2½ GPM at pressure up to 400 PSI and has a shaft speed up to 1800 RPM. Directional Control Valve operates either three or four way for single or double-acting cylinders. Measures only 5" diameter, less than 10" long yet contains Pressure Relief Valve and Reservoir tank. Economically priced, fast off the shelf delivery. Write for complete catalog page No. 308. Cylinders also available.

Hein-Werner CORPORATION WAUKESHA, WISCONSIN

GENERAL OFFICES WAUKESHA, WIS., U.S.A.

PLANTS: WAUKESHA, WIS. OSHKOSH, WIS. AJAX, ONTARIO

For more details circle **NED-535 J1** on enclosed inquiry slip

NEW STAINLESS STEEL BODY

used by hundreds of famous manufacturers

LOW PRICE—LONG LIFE

AIR CYLINDERS

- ¾" Bore—1-1/16" Bore—1½" Bore
- Single Acting
- Double Acting
- Nose, Pivot or Double end mount
- Stainless or high carbon piston rods
- Hexagon Non-Rotating piston rod
- Built-In Solenoid valve
- Built-In Manual valve
- Mirror finish Stainless Steel tubing
- "U" cup seals not "O" rings
- Exclusive BIMBA Rolled-In construction

1½" Bore 1" Stroke Double Acting **$5.95** EA.

Hundreds of industry users in electronics, plastics, metalworking, petroleum, food, clothing, beverage have famous BIMBA low cost, long life "Throw-Away" air cylinders. Used for air power clamping, minature air vises, jig and fixture control, automatic work feeding, ejecting, stamping, bending, marking and a thousand and one other uses can be applied.

Write for latest catalog and name of nearest distributor. BIMBA MANUFACTURING CO. 110 Main St., MONEE, ILL.

For more details circle **NED-536 J1** on enclosed inquiry slip

LOOK
IT'S LOCKED FOR SAFETY!

PUNCH-LOK HOSE CLAMPS

Today's best bet for clean, no-snag, no-leak, connections

See your nearby Punch-Lok distributor or write to:

PUNCH-LOK COMPANY
Dept. A, 321 N. Justine, Chicago 3 9961

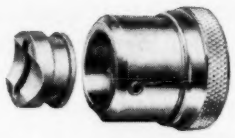
For more details circle NED-537 J1 on enclosed inquiry slip

For long-life rugged duty...

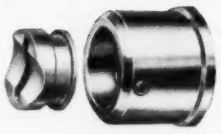
3 NEW SPRAY NOZZLES

Nitralloy or Tungsten Carbide components resist corrosion

Style 1—For spraying standard viscosity paints and road marking applications.
For models 29, 19, 18, 18D, 21 Spray Guns



Style 2—For spraying medium and heavy viscosity paints.
For model 18D Spray Gun



Style 3—For spraying heavy viscosity paints and high speed road marking applications.
For models 7E2 and 33 Spray Guns

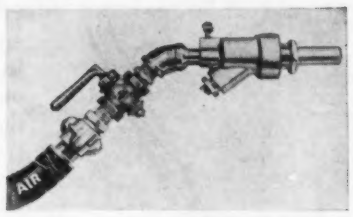
Write for Bulletin No. A46-2 for complete details

Binks Manufacturing Company, 3118-B Carroll Ave., Chicago 12, Ill.
REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES · SEE YOUR CLASSIFIED DIRECTORY 1340

Binks Everything for spray painting

For more details circle NED-538 J1 on enclosed inquiry slip

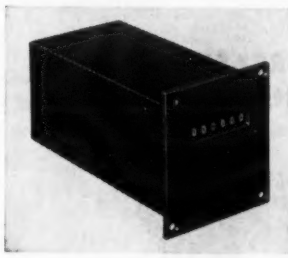
SMALL SAND BLASTER
removes dirt, scale, weld flux



Easily handled by one man, the Econo-Vac low cost vacuum type sand blaster can be in operation only a few minutes after connection to an air source. It uses abrasive or sand to remove dirt, scale, welding flux, and residues from castings and metal parts. Cleaning of brick, stone, and other masonry surfaces is also possible. Flow of high pressure air creates a vacuum to pull sand from a container into the nozzle body where it is forced through the blast tip at high velocity. Both velocity and feed are adjustable at the nozzle. • **Air Placement Equipment Co.,** 1000 W. 25th St., Kansas City 8, Mo.

For more details circle NED-540 J1 on enclosed inquiry slip

ELECTRONIC COUNTER
rated at 100 impulses per second



Either five or six-figure drums are available on this electronic impulse counter, operated by electromagnetic or mechanical zero reset. It counts 100 impulses per second with its electromagnetic stepping motor, and can be used to measure time and distance by direct measurement in decimals. Continuous noiseless operation at high speed is possible. Motor operates on self-lubricating bearings and the rotor is sealed, making the counter virtually maintenance-free. It is adaptable to data processing and automation equipment. • **Ringsdorff Carbon Corp.,** Box 22, East McKeesport, Pa.

For more details circle NED-541 J1 on enclosed inquiry slip

DIAPHRAGM VALVES
in air-actuated 1/4 to 3-in. sizes

Especially suited for saturated steam service to 200 psig, 1000 Series diaphragm valves can also be used for water, oil, and gas service to 400 psig. Typical applications are found in chemical, plastics, rubber, and other processing plants. By reversing the enclosed actuator spring assembly, the universal actuator is quickly changed from air-to-open to air-to-close. Diaphragm is Neoprene with nylon reinforcement. They have bronze bodies with Monel or stainless steel trim, and the stem seal is maintained by finger-tight pressure. • **Taylor Instrument Companies,** 95 Ames St., Rochester 1, N. Y.

For more details circle NED-542 J1 on enclosed inquiry slip

Your **SOABAR MAN*** recommends...

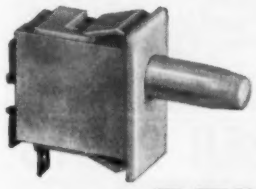
"There's one quick way to cut ticket and label costs . . . print 'em in your own plant! Companies everywhere now save time and money by using SOABAR machines for automatic marking and attaching tickets and labels from rolls as they need them. Your own SOABAR machine can print a complete range of information . . . price, size, quantity, color . . . lot, style or part numbers . . . contents or ingredients . . . item or model name. It's well worth your while to investigate how the SOABAR marking methods can be a real profit booster in product identification, pricing, content disclosure, shipping or internal control. Ask your SOABAR MAN next time he calls for details. No obligation, of course."

*Ted Draper, District Manager, Los Angeles, California . . . one of 36 SOABAR marking specialists conveniently located throughout the U. S.

Soabar COMPANY
Specialists in Marking Equipment and Roll Tickets and Labels Since 1912
7722 Dungan Road • Philadelphia 11, Pa.

For more details circle NED-543 J1 on enclosed inquiry slip

MICRO SWITCH Precision Switches

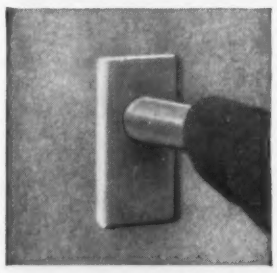


GET MICRO SWITCH RELIABILITY...

in a new low-cost 10-amp snap action switch

Wiring is fast and easy with "quick connect" terminals. Mechanical and electrical reliability and long life are assured by the proven MICRO SWITCH patented snap-action spring principle. Contact arrangement is single-pole double-throw. Rated at 10 amps up to 250 vac and 1/4 hp at 125 vac. The new switch is UL listed and CSA certified.

Snaps securely into panel opening without tools — no bolts — no screws. Designed for panels .045 to .100 inch thickness. An ideal push plunger switch for mechanical or manual operation on appliances, vending machines or other similar uses.



Reliable, attractive construction. The case and plunger are molded of white nylon that resists wear and corrosion. No external metal parts, except terminals.

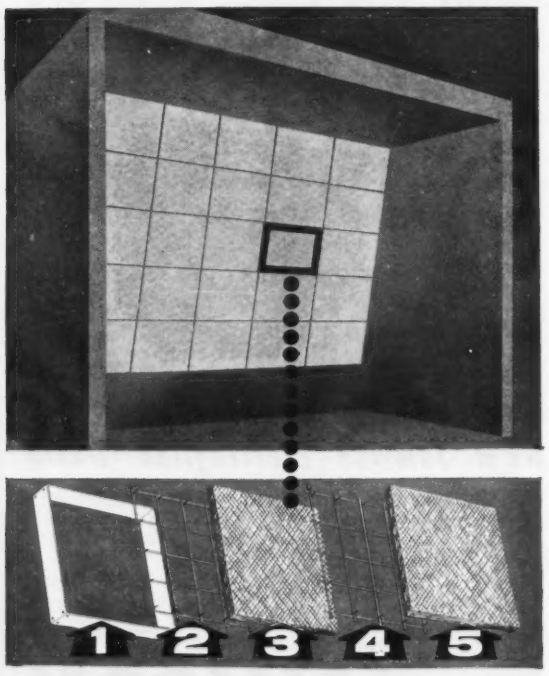
For additional information contact one of the many MICRO SWITCH branch offices listed in the Yellow Pages of your telephone directory. Or write for Data Sheet No. 191.

HONEYWELL INTERNATIONAL
Sales and service offices in all principal cities of the world. Manufacturing in United States, United Kingdom, Canada, Netherlands, Germany, France, Japan.

MICRO SWITCH . . . FREEPORT, ILLINOIS . . . A division of Honeywell
In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

For more details circle NED-544 J1 on enclosed inquiry slip



A Paint Arrestor module consists of a Holding Frame (1), two Snap-in Grids (2 and 4), two Paint Arrestors (3 and 5). Loaded Paint Arrestors are simply replaced as necessary. And, they're also ideal for air-borne ink, mist, dye, frit, etc.

CONTROL PAINT OVERSPRAY the inexpensive, effective way!

The advantages of R P Paint Arrestors, the inexpensive, disposable air filters are many. Overspray solids are trapped before they reach the exhaust stack... to reduce fire hazards, damage to adjacent property... disagreeable and time-consuming maintenance work. Installation? —easy and fast. Maintenance? —remove loaded Paint Arrestor and replace a new one. Adaptability? —ideal for any type, any size booth, new or existing.

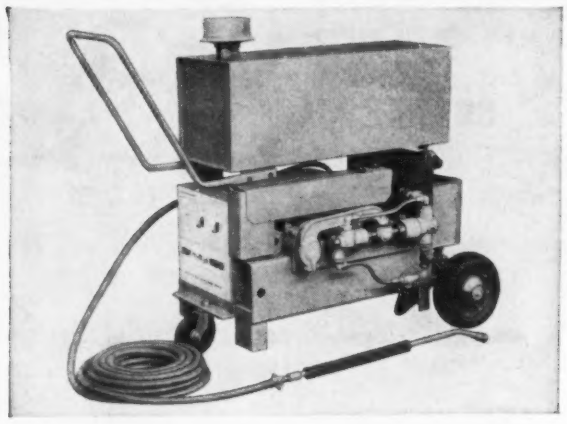
RP PAINT ARRESTORS

UL Listed

RP Products of Research

RESEARCH PRODUCTS Corporation
Dept. 32-I, MADISON 1, WISCONSIN

For more details circle NED-539 J1 on enclosed inquiry slip



Plant Clean-up a headache?

Multi-Job Washer is Sure Cure

Mighty, but small, Jenny Multi-Job Washer takes the headache out of plant clean-up. Its combination of pressure cleaning solution and controlled electric heat cleans machinery, walls, floors, equipment in a jiffy. Takes no more room than a 55-gallon drum. Portable, self-contained for continuous operation. Costs only $450. It's all-electric—so, no fumes. No flame. No fogging. For full time-saving, work-saving details, write or check item number.

hv HOMESTEAD VALVE MANUFACTURING COMPANY
Hypressure Jenny Division–Coraopolis, Pa.
(In Canada: Hypressure Jenny Sales & Service, Ltd. 517 Jarvis St., Toronto 5, Ont., C.S.A. Approved)

For more details circle NED-545 J1 on enclosed inquiry slip

MOLDED RUBBER PARTS

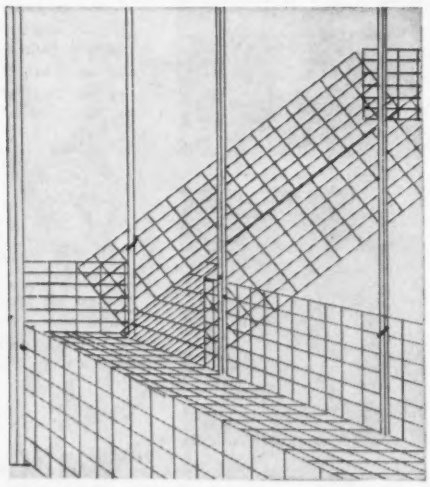
BY HUNDREDS . . . OR MILLIONS

WE MATCH YOUR SPECS AND YOUR PRODUCTION SCHEDULES

We can produce in quantity any part made of molded solid rubber (illustrated) or of extruded flexible vinyl plastic. We have complete engineering and technical personnel for working with you on developing the design or redesigning a part, plus a long and successful performance record on quality and deliveries to schedule. Send drawing, sketch or part for prompt quote. Ask for illustrated folder.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-546 J1 on enclosed inquiry slip



Your Own Employees can easily install these conveyor guards

WIRE-SHIELD

Ready-to-install Conveyor Guards

Installation of WIRE-SHIELDS is fast, easy and inexpensive. Unskilled labor can install them without special tools. Pre-assembled 8 foot sections in choice of widths and heights are helixed together, forming a sturdy, lightweight protective channel for conveyors. Used on slopes, corners and straight runs. WIRE-SHIELDS are reusable and fold for storing. Shipped with non-corrosive aluminum finish, including pre-cut helixes and hanger clips.

Write for FREE Literature

SPRINGPORT STEEL Products Co.
SPRINGPORT • MICHIGAN

MEMBER Material Handling Institute mhi

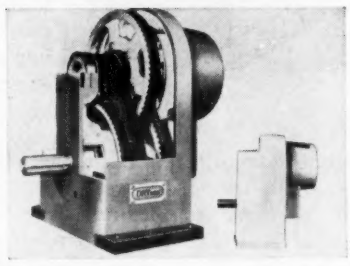
For more details circle NED-547 J1 on enclosed inquiry slip

CONTROL SWITCH
operates with air flow interruption

Presence or nonpresence of any solid object is detected without physical contact by the Jet-Tron control switch. The pneumatic unit produces an electric signal when an object interrupts the flow of air across an opening. The signal can be used for the automatic control of conveyors, multiple machine coordination, level controls, and feeders. The 7-amp, 120-v, single-pole double-throw snap-action switch is accurately operated by directing a 1.5-psi jet of air against the switch diaphragm. It is installed with an air line leading from a flow control valve to an open end, with the receiver tube to the switch installed opposite. • **Automation Devices, Inc.,** 3125 Brandes St., Erie, Pa.

For more details circle NED-548 J1 on enclosed inquiry slip

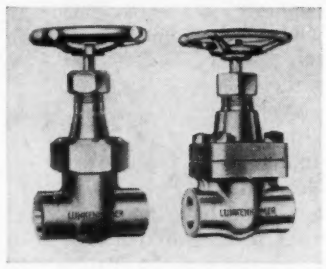
SPEED REDUCER-INCREASER
uses toothed belts in gearing



The Dry Gear Dryve, a speed reducer-speed increaser drive unit, may be mounted in any position. It requires no lubrication. Unit is unaffected by temperature changes in a −60 to 200° F range. Quiet operating toothed belts are incorporated in the lightweight, compact, parallel shaft unit. Drive is available in ½, ¾, 1, 1½, and 2-hp ratings and output shaft speeds ranging from 16½ to 780 rpm. Custom units provide speeds from 1 to 15,000 rpm. • **Machine Control, Inc.,** 310 Second Ave. N., Minneapolis 1, Minn.

For more details circle NED-549 J1 on enclosed inquiry slip

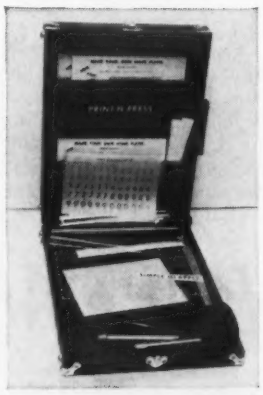
GATE VALVES
rapidly installed, inside screw type



Bolted bonnet design in 1½ and 2-in. sizes and union bonnet type in sizes from ¼ to 1 in. are available in these inside-screw steel gate valves. Identified as Figures 8004-5-7-8, the line includes both screwed and socket ends. Valves have an inside screw rising stem and solid wedge discs of 13 chrome stainless steel, heat treated to eliminate chipping or cracking. Rolled-in seat rings of the same material will not loosen in service. Valves are rated 800 psi in 850° F service and 2000 psi at 100° F. • **Lunkenheimer Co.,** Beekman Street & Waverly Avenue, Cincinnati 14, Ohio.

For more details circle NED-550 J1 on enclosed inquiry slip

NAMEPLATE & LABEL MAKER
kit includes tools and materials



Pressure-sensitive nameplates and labels can be made in any quantity with custom legends by the Print-N-Press, offered in kit form with cutting board, case, burnishing tool, knife, tweezers, selected press-on letters and numerals, tapes, and instructions. Finished product is not glossy or stiff and will not discolor. Letters and numerals are available in ⅛, ¼, ¾, and ½-in. sizes on 8 x 6-in. sheets in black, white, and red. Self-adhesive background tapes are made in six colors in ¼, ⅜, ½, ¾, and 1-in. widths in 9-in. lengths. Transparent sealing tapes for protecting rub-on letters are of the same size. Price is $24.50. • **Power Dispatchers Equipment Co.,** Box 1947, Milwaukee 1, Wis.

For more details circle NED-551 J1 on enclosed inquiry slip

IT'S THE SAME OLD STORY...

the best looking lawns are cut by a Locke

No wonder! Lockes trim and mow **in one operation,** always cutting ahead of the tractor rolls, leaving no uncut, matted down grass. The entire mower travels on cut grass...a unique feature that never leaves grass permanently stripped or rutted. The ⅓ overhang of the cutting units eliminate half of your secondary trimming operation; saves time, energy and money. Lockes Triplexes with their designed-in synchronized roller chain drive, guarantees smooth operation; a safe, sure cut on wet or dry grass, year-in-year-out.

Be proud of your lawn! Cut and trim it, economically, beautifully with a Locke. Your Locke Service Dealer is ready to show you its many exclusive features...demonstrate its lifetime values. See him today!

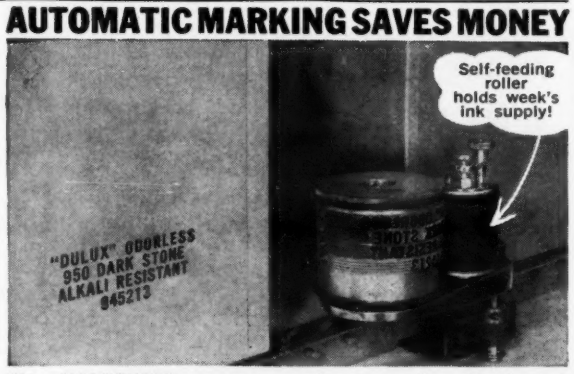
2 Models—Single or Triplex; 4 Basic Sizes—25", 30", 70", 75"; Plain or reverse.

Send for literature. *Invest in a Locke!*

Locke **POWER LAWN MOWERS**
A product of The Locke Steel Chain Co.
1087 Connecticut Ave., Bridgeport 1, Conn.

For more details circle NED-552 J1 on enclosed inquiry slip

AUTOMATIC MARKING SAVES MONEY



New ROLACODER conveyor and case-sealer attachment marks boxes, cartons, drums, filled bags automatically

Saves on container printing costs . . . eliminates hand-stamping . . . insures faster identification

- Low-cost . . . pays for itself in months
- Compact . . . works by friction . . . requires no troublesome adjustments
- Install it yourself on any conveyor, case-sealer, etc. to mark from side or top
- Not a gadget — beautifully designed and precision-made to give consistently dependable performance, uniform impressions
- Patented type base holds type and dies securely, makes copy changing easy
- Spots imprints accurately in any desired location
- Many thousands in use by all industries

Models to suit every need . . . including twin-action units for marking 2 or 4 sides of cases simultaneously.

Write today for Bulletin "ROL-3"

First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines — Gottscho

GOTTSCHO Dept. N
HILLSIDE 5, N.J.

For more details circle NED-553 J1 on enclosed inquiry slip

Automatic Electric Doors
Speed Volume Trucking

NEW *Jamison Electroglide* Doors*

A completely new design for power operated doors with famous Jamison Cold Storage Door performance. Fast, automatic opening and closing speeds traffic, saves time, eliminates refrigeration loss.

Send for a copy of new bulletin for data on operation, features, dimensions. Jamison Cold Storage Door Co., Hagerstown, Md.

**Jamison Trademark*

JAMISON
COLD STORAGE DOORS

For more details circle NED-554 J1 on enclosed inquiry slip

On PINES Model 660 End Finishing Machine

Designed especially for simultaneous inside-outside deburring, chamfering and facing operations on tube, rod and pipe ends, this *high production* machine features:

- EASIER OPERATION . . . with simplified controls.
- CLOSE TOLERANCE WORK AND FASTER FEEDS.
- 3-MINUTE CHANGEOVER . . . with interchangeable tooling and fast selection from 8 spindle speeds.
- HIGH PRODUCTION...to 1500 ends an hour in stock to 2" O.D.

BOTH MANUAL AND AIR OPERATED UNITS AVAILABLE
LARGER MACHINES ACCOMMODATE STOCK SIZES TO 5" O.D.

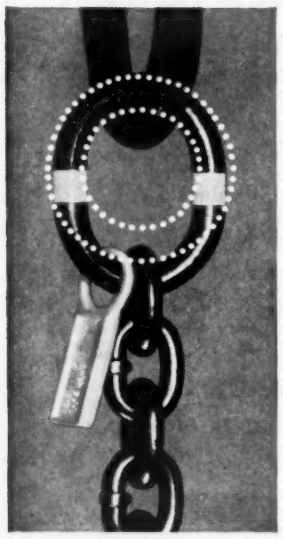
WRITE FOR NEW FREE CATALOG | PINES ENGINEERING CO., INC. Specialists in Tube Fabricating Machinery 641 WALNUT • AURORA, ILLINOIS

▲ For more details circle NED-555 J1 on enclosed inquiry slip ▲

New and Revolutionary...

SLING CHAINS THAT "TALK"

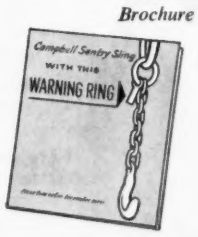
CAMPBELL SENTRY SLINGS*



The WARNING RING tells when sling has been overloaded — it elongates measurably or visibly before chain itself is damaged. This positive way to detect overload makes sling inspections easier, adds to safety and economy.

*Patent Applied For

Write today for Brochure #1022.



CAMPBELL CHAIN COMPANY

3 FACTORIES: York, Pa.; West Burlington, Iowa; Union City, Calif.
WAREHOUSES: Medford, Mass.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Portland, Ore.; Seattle, Wash.; Los Angeles, Calif.

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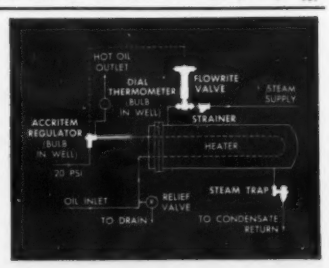

HELPS AND IDEAS ON STEAM AND WATER CONTROL SYSTEMS

How to install a new system . . . how to improve your present one . . . what to use . . . easy-to-follow diagrams . . . practical engineering information — yours for the asking in Powers *Engineer's Manual, Steam Water Service.*

Contents include:

- Domestic Hot Water
- Hot Water Storage Heaters
- Instantaneous Heat Exchangers
- Heating Exchangers For Cooling
- Fuel Oil Pre-Heaters
- Process Hot Water
- Pressure Reducing
- Jacket Water Cooling
- Two-Temperature Hot Water Systems.

Request your manual now. If you have a special requirement or problem, request recommendations.

THE POWERS REGULATOR CO.
Dept. 961, Skokie 44, Illinois
In Canada:
The Powers Regulator Co. of Canada Ltd.
Downsview, Ontario

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RELIEF GRINDING MACHINE

for drill point and cam grinding of work with any number of flutes

As a drill point grinder with accurate indexing and concentricity, the Steptool dual purpose relief grinding machine grinds original points and resharpens virtually every style of drill point. Changeover to different sizes, angles, and styles is accomplished quickly. Web thinning and split points are done on a separate slide adjacent to a second grinding wheel.

As a cam relief grinder, it will also grind, with eccentric relief, step drills with or without marginal relief, taps, countersinks of every style, center and subland drills, and porting and valve seating tools. Range of work is from 1/64 to 1 1/32 in., right or left hand, with any number of flutes. Set of 66 collets for gripping on flutes is furnished. Optional headstock converts the machine to an end mill and milling cutter sharpener. • **Harig Mfg. Corp.**, 5757 W. Howard St., Chicago 48, Ill.

▲ For more details circle NED-558 J1 on enclosed inquiry slip ▲

LIFT TRUCKS

capacities from 6000 to 10,000 lb available in line of seven trucks

Six-cylinder Power-Crater gasoline engine developing 77 hp powers seven models of lift trucks, all of which have power steering as standard equipment. The F and FS Series trucks are also available with LP-gas and diesel power, and have capacities from 6000 to 10,000 lb. Units have high carbon welded steel masts with piston type lift cylinders, and tapered heat treated alloy steel forks.

Trucks are available with either standard constant mesh transmission with two forward and two reverse speeds, or optional Power-Shift torque converter drive which permits operator to change direction merely by flicking a lever. Trucks with 6000, 7000, and 8000-lb capacity have quickly removable counterweights with lifting eyes. The FS Series of special purpose trucks has 8½-in. ground clearance at the center and 6-in. clearance below the mast for travel over uneven surfaces. Numerous attachments are available. • **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

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How much will a 50% cut in bulk handling costs add to your profits ?

Probably a lot, if your plant is at all like the thousands now using Roura Hoppers. With a Roura self-dumping hopper on your lift truck one man can do the work of two . . . and use less time doing it.

Roura Hoppers attach in seconds to any lift truck (fork or platform). They can't slip off. Operator picks up loaded hopper, transports it, releases the latch—and the hopper *automatically* dumps itself, rights itself, locks itself. The *Roura Way* adds to your profits because it's the fastest, lowest cost method of handling bulk materials and small parts—hot or cold, wet or dry.

Specifications: *Eight sizes, ½ to 4-yard capacities. Construction: 3/16" steel plate with continuous arc-welded seams. Heavier plate, stainless, aluminum, galvanized, available. Mounted on live skids or choice of wheels. Standard models shipped from stock.*

WANT MORE DETAILS?
Just clip this coupon to your letterhead and mail to
ROURA IRON WORKS, INC.
1415 Woodlawn Ave., Detroit 11, Mich.

ROURA *Self-Dumping* **HOPPER**

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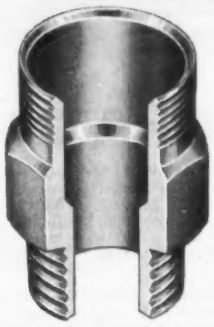
COLD IMPACT EXTRUSIONS

In steel, brass, aluminum and stainless steel



High speed automatic equipment, designed and built by Jacobson, for cold impacting and secondary operations, has resulted in substantial economies in high production items.

Impacted Fitting • 67% saving

JACOBSON NUT MFG. CORP.
Kenilworth, New Jersey

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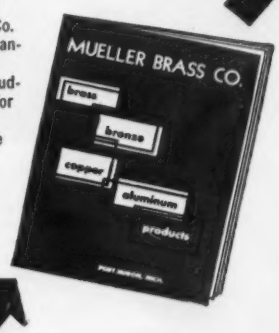
Available in Stainless Steel, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. KENILWORTH, N.J.

▲ For more details circle NED-562 J1 on enclosed inquiry slip ▲

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.



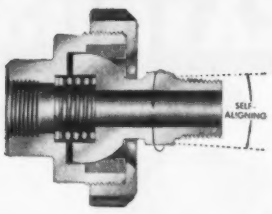
314

Please send me Mueller Brass Co. Manual No. FM 3017.
Name_____
Firm_____
Address_____
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

BARCO *Self-Aligning* **SWIVEL JOINTS**

—when you need swivel joints in piping handling



STEAM

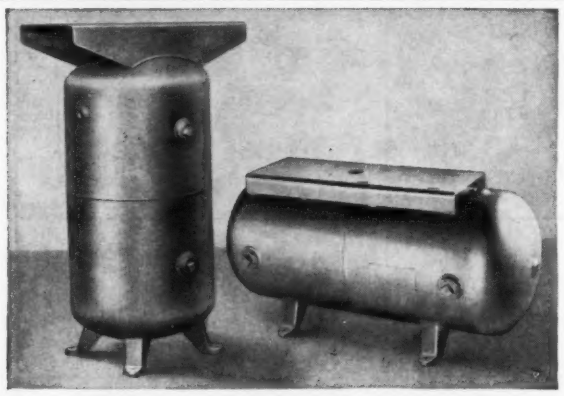
NEW 11CTS CHEMICALLY INERT SEAL—Pressure sealing and automatically self-adjusting for wear. No lubrication needed; no ball bearings. Ideal for steam service. Uniform performance over temperature range from −50° to 450°F. Outlasts previous seals 4 to 6 times.

DESIGNED SPECIFICALLY FOR STEAM—Self-aligning. Provides a wide tolerance for pipe fitting and machine alignment on molding, platen, and board presses. Better heat control, maximum safety, permanent installation. Three to four times more service life than other methods of providing flexibility.

Send for Engineering Catalog 265B

Send for Catalog 265B, "Barco Self-Aligning Swivel Joints." Ratings as high as 750 psi steam or 3000 psi hydraulic. Sizes ¼" to 2"; 90°, 180°, or straight styles. *Ask for recommendations.* BARCO MFG. CO., 530K Hough St., Barrington, Illinois.

For more details circle **NED-565 J1** on enclosed inquiry slip



Seven Standard Capacities in Hackney Air Receivers

You can cut costs by specifying Hackney air receivers in *standard* horizontal capacities of 30, 60, 80 and 120 gallons, or *standard* vertical capacities of 30, 60 and 80 gallons.

Modern Hackney 2-piece design gives stronger, lighter construction than tanks having longitudinal and two head welds. One circumferential seam minimizes weld area of the tank. Receivers meet requirements of all pressure vessel codes. Send for complete specification details—ask for Bulletin No. AR-1.

Hackney MILWAUKEE **Pressed Steel Tank Company**
Manufacturer of Hackney Products
1450 South 66th Street, Milwaukee 14, Wisconsin
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

For more details circle **NED-566 J1** on enclosed inquiry slip

Spray on **Statnul**
wipes off static . . .
wipes out error!

Static electricity can cause false readings in panel and test instruments . . . especially with plastic-faced meters. Eliminate this problem for months with new Weston STATNUL. *Spray or apply* with saturated cloth—then wipe. An invisible shield drains away static. *Cleans and polishes* with every application . . . wards off abrasive dust.

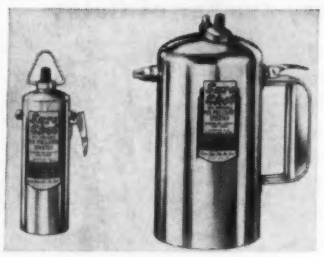
Mail coupon today or see your Weston distributor.
Only $3.95! Check or money order enclosed ☐
Bill me. Purchase order enclosed ☐

Name_____
Address_____
City_____ Zone____ State____

WESTON **Statnul** a product of DAYSTROM, INCORPORATED
Weston Instruments Division, Dept. NE9, Newark 12, N. J.

For more details circle **NED-567 J1** on enclosed inquiry slip

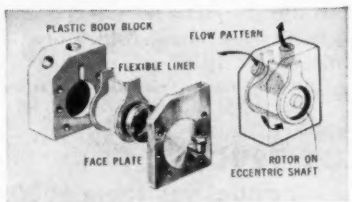
AIR-CHARGED SPRAYERS dispense light oils and waxes



Air charged by standard compressed air chucks or auxiliary carbon dioxide bombs, Sure Shot portable sprayers will dispense light liquids in a jet stream for accuracy or in a fine mist spray. They are used to apply lubricants, waxes, and detergents for machinery and conveyor systems, as well as various dressings and liquid compounds. Accessories for the 1-qt capacity Model A include rigid and flexible nozzle extensions; for the 6-oz Model C, auxiliary pressure hand pump, nozzle extension, and pocket spring clip. Color range facilitates content identification. • **Milwaukee Sprayer Mfg. Co.**, 2437 W. Fond du Lac Ave., Milwaukee 6, Wis.

For more details circle **NED-568 J1** on enclosed inquiry slip

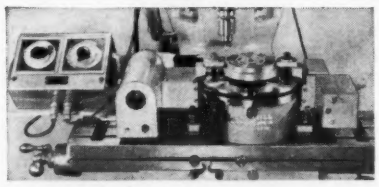
PLASTIC PUMP has 1/3 to 10-gpm capacities



Measuring 6 x 8 x 11 in., this low cost, close-coupled, OEM plastic pump has no stuffing boxes, shaft seals, valves, or gaskets. Driven by standard industrial motor, the rotor on an eccentric shaft turns within a Flex-I-Liner, moving fluid by progressive squeegee action. No rotating metal part contacts the fluid. Pump is self-priming, operates wet or dry, and can handle slurries and viscous materials. Capacities range from ⅓ to 10 gpm and pressures to 35 psi. Standard materials are high temperature neoprene for liner and linear polyethylene for body. Optional materials are polyvinyl chloride, Teflon, Buna N, Kel F, and Hypalon. • **Vanton Pump & Equipment Corp.**, 201 Sweetland Ave., Hillside, N. J.

For more details circle **NED-569 J1** on enclosed inquiry slip

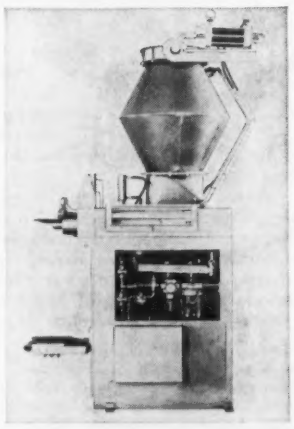
ELECTRONIC INDEX TABLE for automatic hole pattern spacing



Drilling, boring, jig boring, checking, milling, spacing, and other operations can be performed on the Model 800 Roto Mill electronic index table. Designed for automatic spacing of hole patterns in 0.1, 0.5, and 1-degree increments, the table can also be used for programming a part that requires milling of slots. By use of a 15-in. program plate, it can program uneven indexes. Table is used in a horizontal or vertical position and is powered by a 110-v, 60-cycle ac motor. A slip clutch is provided for hand operation if needed. • **M & M Tool & Mfg. Co.**, 1124 E. Third St., Dayton 2, Ohio.

For more details circle **NED-570 J1** on enclosed inquiry slip

AIR PRESSURE PACKER for hard-to-handle materials



Powdery, flaky, granulated, or pelleted materials are rapidly and accurately packed in valve or open-mouth bags or drums by the Stok-Aire air pressure packer. It combines a pressurized delivery system with an electronic weighing system. The true-scale beam has a 100:1 scale leverage with sensitivity to as little as ¼-oz actuation of an electronic sensing capacitor that functions without direct connection or sparking. With over-under weight indicator and electronic trimming, no check weighing is necessary. Designed for 20 to 250 lb packed weights, the machine is 10 ft 8 in. high. With diamond-shaped hopper shown, only 87½-in. headroom is needed. A settler is also optional. • **H. L. Stoker Co.**, Box 112, Claremont, Calif.

For more details circle **NED-571 J1** on enclosed inquiry slip

POR-ROK
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1923

For more details circle **NED-572 J1** on enclosed inquiry slip

Let "CADILLAC" Prove Itself to *YOU!*
Portable
Cadillac WINCH HOIST

Model 202WN
Pat. No. 2,738,954
Pat. No. 2,927,771
Other Pats. Pending

LIFTS—PULLS—LOWERS 1000 to 4000 pounds

Aluminum Alloy Castings Withstand Corrosion

Stainless Steel Shafts & Springs

Preformed Aircraft Cable

SAFETY REVERSIBLE HANDLE is engineered to bend before any mechanical part is subjected to an overstrain.

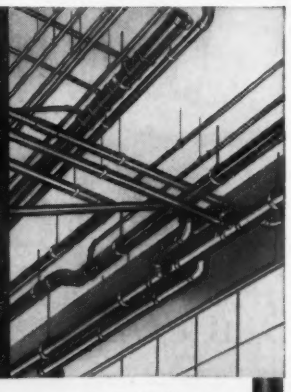
Easy to Operate
Easy to Maintain
Lightweight—Only 7½ to 14 lb

$30.95 and up.

ALUMINUM PRODUCTS, Inc.
Est. 1943
699 S.W. 2nd Ave., Ft. Lauderdale, Fla.

For more details circle **NED-573 J1** on enclosed inquiry slip

Vulcathene
Costs Less,
Weighs Less,
Installs Faster
than any other
Acid-Proof
Drainage System



Here's the proved, modern way to drain corrosive wastes—at less than half the cost of other systems. Vulcathene has everything you need—pipe, fittings, sinks, traps, in a wide range of sizes—competitively priced for *any* waste system. Save on economical installation and trouble-free, maintenance-free life:

FASTEST, EASIEST INSTALLATION! Lift 20′ sections with one hand; make leak-proof joints in *seconds* by the patented Polyfusion® method.

CORROSION-PROOF, ACID-PROOF, SHATTER-PROOF . . . the trouble-free material for all waste systems.

CLOG-PROOF, SCALE-PROOF! Smooth, non-adhering bore throughout.

Find out how you can save *every* way with use-tested, time-tested Vulcathene.

WRITE Dept. 359 for new catalog.

American Vulcathene
P. O. Box 365 ROCHESTER 2, NEW YORK
DIVISION OF THE NALGE CO. INC.

For more details circle **NED-574 J1** on enclosed inquiry slip

MAG-PNEU-POWER
TRIP-L-TRAP
condensate
DISCHARGE CONTROL

KEEPS THOSE LINES DRY

Combines magnetic action with dynamic system energy to eject condensate and contaminates—without fail!

Model 501
Pat. Pending

"It's Clogproof"

- Cuts downtime costs!
- Easily installed!
- Minimum maintenance!
- Automatic ejection!
- Pilot-actuated!
- Compact design!
- Ruggedly-built!
- 10-200 PSIG operation!

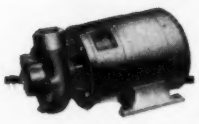
UNCONDITIONAL GUARANTEE TRIP-L-TRAP

Write for your copy of Bulletin 502

Hankison CORPORATION
College & Pike • Canonsburg, Pa. (Greater Pittsburgh Area)

For more details circle NED-575 J1 on enclosed inquiry slip

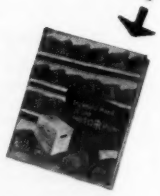
lower your pumping costs with I-R "K" Line motorpumps!



COMPACT, MULTI-PURPOSE "K" Line Motorpumps deliver high output with low-cost, maintenance free operation:

- off-the-shelf delivery
- 1/3 through 25 horsepower
- Up to 775 gallons per minute
- Heads to 190 feet

Precision made impellers, mechanical seals, threaded connections, varied discharge positions, easy mounting. Get all the facts on this sturdy efficient pump . . . Write today for "K" Line Catalog or see your local I-R representative or distributor.



90A-9

1860 – 1960
A CENTURY OF PUMP PROGRESS from the leading Manufacturer
Ingersoll-Rand
11 Broadway, New York 4, N. Y.

For more details circle NED-576 J1 on enclosed inquiry slip

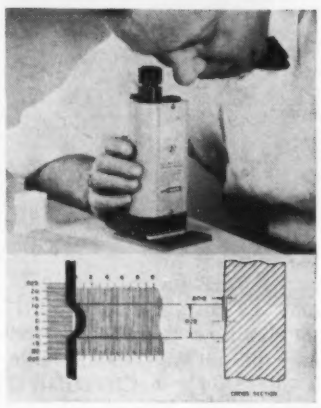
MITY-MIDGET

Cut sanding costs as much as 75% (over hand sanding), with National's Mity-Midget . . . the original orbital action sander. Weighs only 4 lbs . . . yet has 25 sq. in. of abrasive area. Powerful . . . vibrationless. Write for complete catalog, today.

Write for complete catalog
NATIONAL-DETROIT, INC.
ROCKFORD, ILLINOIS

For more details circle NED-577 J1 on enclosed inquiry slip

SCRATCH DEPTH GAGE
adapts to flat or curved surfaces



Scratches, grooves, and other indentations on flat or curved surfaces are quickly measured with this Scratch Depth Gage to determine if they fall within prescribed limitations. Typical uses are the inspection of aircraft wing skins and high pressure pipe and tubing. Accuracy is within ±0.0001 in., or 5 per cent of depth, for indentations with depths from 0.0002 to 0.016 in. Scratch widths from 0.001 to 0.050 in. can be determined to ±0.001 in. Same range applies to measurement of raised portions. Battery-operated instrument also shows the contour of the indentation clearly. List price of $278 includes batteries and carrying case. Transformer for using gage with 115-v ac is optional at $46.50. • **Bausch & Lomb Inc.**, 635 St. Paul St., Rochester 2, N. Y.

For more details circle NED-578 J1 on enclosed inquiry slip

SHOCKPROOF CONTAINERS
protect delicate gear from damage

Such panel materials as honeycomb, foamed plastic, and metal-faced plywood provide this line of reusable shockproof containers with light weight, thermal insulation, weather tightness, and high shock resistance. Designed to protect delicate electronic components, optical equipment, and other items from damage under extreme conditions, they exceed ATA and Military specifications. Special bracketry is available for any shock mounting need. • **Monogram Precision Industries, Inc.**, 8557 Higuera St., Culver City, Calif.

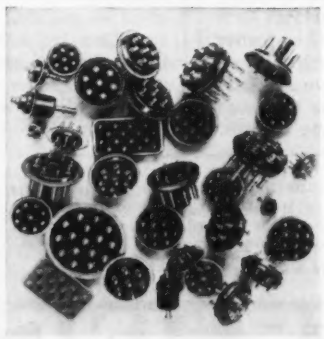
For more details circle NED-579 J1 on enclosed inquiry slip

INDOOR-OUTDOOR FORK TRUCK
has 4000-lb capacity

Free flotation power train of the K-40 fork truck is designed so that all load stresses are carried on the truck frame. The 4000-lb capacity unit is designed for indoor and outdoor use, being equipped with heavy duty dual wheels for traction in soft areas and a standard shift transmission with three forward and one reverse speeds. It has a lift of over 9 ft with 10-degree angle tilt forward and backward. Truck has power steering, fingertip hydraulic controls, both foot and hand throttles, and a large air cushion seat with contour back. Powered by an air-cooled Wisconsin engine of 30 hp, the truck is available with concrete block forks, hydraulic clamps, boom, dozer blade, rotary sweeper, and snow plow. • **O. W. Kromer Co.**, 1120 N. Emerson Ave., Minneapolis 11, Minn.

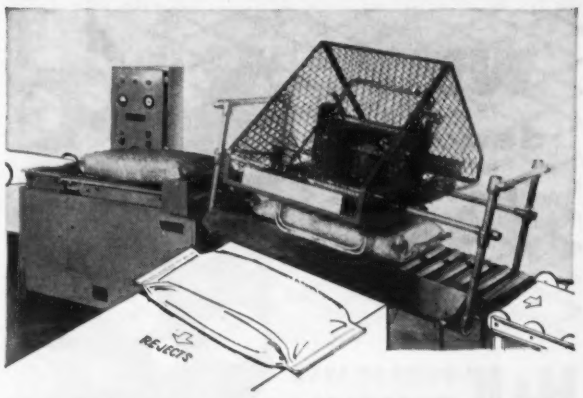
For more details circle NED-580 J1 on enclosed inquiry slip

MOLDED TERMINAL HEADERS
in many shapes, pin configurations



Terminal headers are molded of high-strength dielectric mineral-filled phenolic in a variety of shapes and pin configurations. Pins are of gold-plated brass, and header configurations are suitable for transformers, electrolytic capacitors, plug-in modules, tube sockets, and other plug-in components. Miniature types are included. • **U. S. Engineering Co.**, 13536 Saticoy St., Van Nuys, Calif.

For more details circle NED-581 J1 on enclosed inquiry slip



AUTOMATIC BAG CHECKWEIGHER

Exact Weight SCALES

Find us in your local "Yellow Pages"

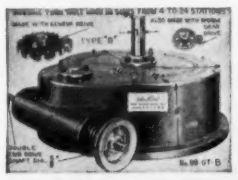
SELECTROL Model 1250, designed for production-line installation, checkweighs bags from 25 to 150 lbs. with 1/10 of one percent accuracy. Speed is variable to 25 bags per minute. Tolerance is adjustable to your requirements. Selectrol above, has automatic overweight and underweight rejection mechanism. Models are available with underweight rejection only or without rejection mechanism. Write for Bulletin 3376.

THE EXACT WEIGHT SCALE CO.
930 W. FIFTH AVE., COLUMBUS 8, OHIO
In Canada: 5 Six Points Road, Toronto 18, Ont.
BETTER QUALITY CONTROL...BETTER COST CONTROL

For more details circle NED-582 J1 on enclosed inquiry slip

EISLER
FOR 39 YEARS
We supply any part or complete equipment . . . Special turntables made to order

INDEXING TURNTABLES
MORE THAN 100 DIFFERENT TYPES
- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. Motorized or hand operated.



Eisler Indexing Turntables are completely electrically controlled

AND CAMS MADE TO YOUR SPECS!

"Ask for catalog 88-57"
EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J
Charles Eisler, Jr., President

For more details circle NED-583 J1 on enclosed inquiry slip

New
Sonic Energy Cleaning Systems

REDUCED INITIAL COST
25% less cost

LESS FLOOR SPACE
up to 40% less

MAXIMUM RELIABILITY
proven design—field tested

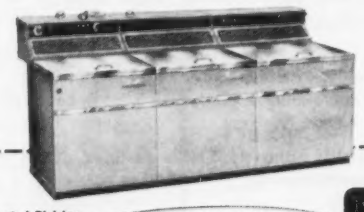
IMPROVED EFFICIENCY
compact power generation

LIFETIME WARRANTY
on new Omnimite® transducer

SYSTEM INTEGRATION
improved filter, rinse & dryer

RESTYLED CABINETS
for maximum adaptability

From Bendix . . . pioneer and largest producer of Sonic Energy Cleaning equipment



Pioneer-Central Division
The Bendix Corporation
Davenport, Iowa

SONIC ENERGY CLEANING

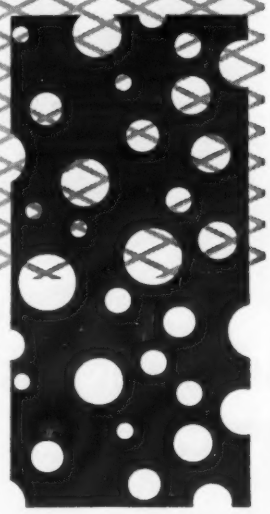
Bendix

Please send complete information on your new Sonic Energy Cleaning line, including compact Uni-Son® models.

Name
Address
City Zone State

For more details circle NED-584 J1 on enclosed inquiry slip

NEW decorative patterns



H&K PERFORATED MATERIALS

Passage or control of air, sound, light or fluid . . . decorative concealment . . . component protection . . . eye catching, sales-building beauty —if your product requires any or all of these features, you'll find the design and functional versatility you need in the Harrington & King line of perforated materials.

Send for General Catalog 75 and/or Stock List Brochure

FIND NEAREST H&K AGENT in the "Yellow Pages"

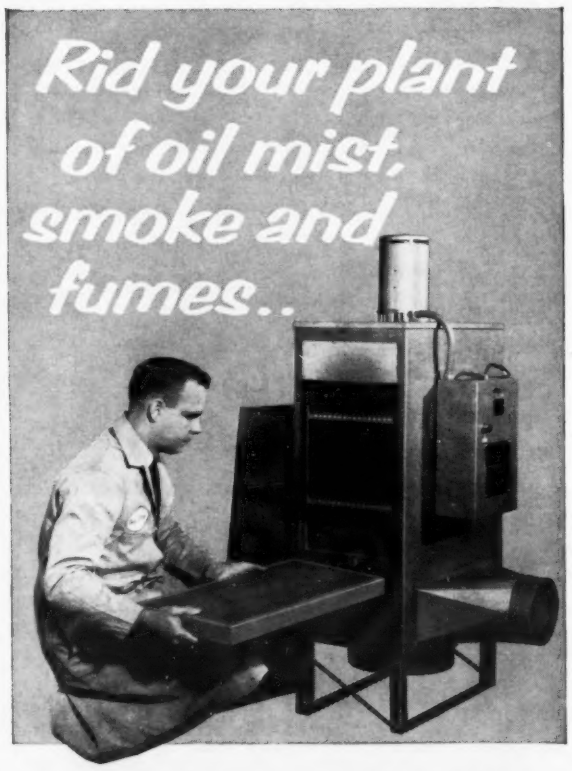
Listed Under "Perforated Metals"

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • New York Office and Warehouse
5658 Fillmore St., Chicago 44 114 Liberty St., Dept. NED, New York

For more details circle NED-585 J1 on enclosed inquiry slip

Rid your plant of oil mist, smoke and fumes..



with MISTI-MAZE Electronic Precipitator

Here's the modern solution to localized plant air pollution problems! Compact Misti-Maze Precipitator can be installed near operation involved. Its new, improved design provides efficiency in a smaller unit. Air is cleaned and vented back into plant, eliminating loss of heated or cooled air. Coolants can be returned to machine for reuse. Easy to install . . . no special connections.

Install Misti-Maze For These Important Air Cleaning Benefits:

Lowers heating and cooling costs. Ideal for air conditioned plants. Avoids necessity for frequent cleaning of lighting fixtures.

Increased worker efficiency. Reduce absenteeism and improve output and quality of production through better operating conditions.

Reduces health hazards. Smoke particles, grease and irritants are removed from air.

For full details, write to Air-Maze Corporation, Cleveland 28, Ohio

AIR-MAZE DIVISION CLEVELAND 28, OHIO

ROCKWELL-STANDARD CORPORATION

For more details circle NED-586 J1 on enclosed inquiry slip

JOB TIME RECORDER
mounts on wall, table, or bracket

Automatic computing and printing of time worked by an employee on a particular job is function of the Compu-Tymer, an elapsed job time recorder. A standard time card is inserted in the unit for punching at the start and finish of a job. A separate card is used for each job. Single or multiple recorders may be installed, controlled by an automatic timer to eliminate nonworking time if desired. Mounting may be on wall stand, table, or bracket. Operation is on 115 v. • **Cincinnati Time Recorder Co.**, 1733 Central Ave., Cincinnati 14, Ohio.

For more details circle NED-587 J1 on enclosed inquiry slip

ALUMINUM LADDERS
16 to 40-ft sizes

Oversize serrated rungs, interlocking rails with beaded flanges, large rung lock, and coated bumpers are features of the Shaf Safety Step line of extruded aluminum extension ladders. Pull line facilitates raising. Light in weight and durable, they have self-adjusting safety shoes of rubber. Seven sizes range from 16 to 40 ft. • **Shaf Mfg. Corp.**, 1019 New Market St., Philadelphia 23, Pa.

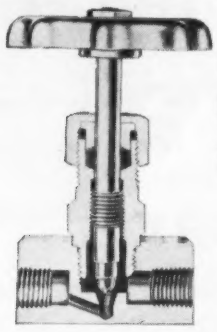
For more details circle NED-588 J1 on enclosed inquiry slip

LOADING RAMP
actuated by backing truck

Low truck docks or shallow dock pits can accommodate the Model RU-800 spring-counterbalanced loading ramp. It can be anchored in dock recesses as shallow as 27¾ in. and is actuated by the backing truck. Platform floats from 8 in. below to 14 in. above dock surface, and automatically levels and locks. The welded steel unit has a 6-ft wide by 8 ft 2-in. long platform with capacity of 20,000 lb. • **T & S Equipment Co.**, 968 Austin Ave., Albion, Mich.

For more details circle NED-589 J1 on enclosed inquiry slip

MARSHALLTOWN



Marshalltown NEEDLE VALVE for fine regulation of water, oil or gas

Engineered to provide micrometer regulation of flow and positive shut-off. Machined from carbon steel or stainless steel. Withstands 10,000 P.S.I. at 70° maximum working pressure.

All Marshalltown gauges meet M.S.S. regulations. Die cast alloy handle is designed for heat dissipation and easy operation.

Let Marshalltown answer your needle valve, gauge or thermometer problems . . . write for information and prices.

Gauges

MARSHALLTOWN MANUFACTURING, INC.
A SUBSIDIARY OF THE ELECTRIC AUTOLITE CO.
MARSHALLTOWN, IOWA

For more details circle NED-591 J1 on enclosed inquiry slip

COMMANDER TAPPER handles "IMPOSSIBLE" tapping job

THE JOB: Tap 4 6-32 holes 11/16" deep in the hubs of production run, heat treated gears.

THE PROBLEM: Excessive breakage of the specially relieved taps used to handle the unusual depth-to-diameter tapping job . . . spoiled parts . . . high costs. A number of different tappers were tried, but the problem remained.

THE SOLUTION: A Commander Tapper was installed . . . adjustable torque control set to protect the tap and job was resumed.

THE RESULT: 1700 pieces were tapped without breaking a single tap. Tolerances were held and a very high rate of production was maintained.
This is typical of the performance a Commander Tapper can produce.
The extreme sensitivity, and wide range of adaptability of a Commander Tapper can be put to work for you; ask your nearby Commander Distributor for a demonstration.

114

Commander MFG. CO.
4220 WEST KINZIE STREET • CHICAGO 24, ILLINOIS

For more details circle NED-592 J1 on enclosed inquiry slip

INTRODUCING THE go·jo 3-STEP PROGRAM FOR HAND CARE
Maximum Cleansing Effectiveness Plus Positive Precaution Against Skin Irritation

1 BEFORE WORK APPLY go·jo LIQUID PROTECTIVE SKIN COAT

Helping squelch trouble before it begins, new Go-Jo Liquid Protective Skin Coat creates an invisible, greaseless barrier that prevents dirt and irritants from entering the pores. Liquid Protective Skin Coat does not impair sensitivity as do gloves and will not affect materials handled.

2 DURING AND AFTER WORK WASH WITH go·jo CREME HAND CLEANER

It's best to wash as often as grease and grime accumulate. (Prior application of Skin Coat facilitates clean-up.) Go-Jo Creme Hand Cleaner contains antiseptic GT-7 to help prevent irritation, and may be used without water for the frequent on-the-spot clean-ups.

3 AFTER WORK APPLY go·jo LIQUID PROTECTIVE SKIN COAT

Because its emollient ingredients replace natural skin oils and soothe tiny nicks and scrapes, it aids in keeping the hands in good condition for the next day's work.

The Go-Jo Heavy Duty Dispenser cuts handcleaning costs up to 75% by delivering the right amount of Go-Jo Creme Hand Cleaner for a quick, thorough clean-up. Precision engineering eliminates waste.

FOR MORE INFORMATION WRITE: Dept. NED-91

THIS go·jo TEAM COMBATS DIRT AND DERMATITIS WITH A SOLID ONE-TWO PUNCH!

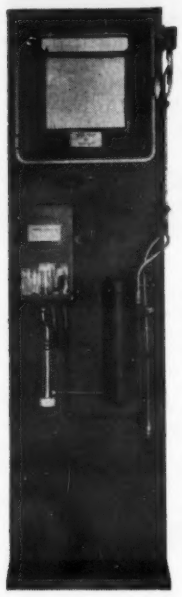
GOJER, INC. Box 991 Akron 9, Ohio
MANUFACTURER OF go·jo PRODUCTS

2759

For more details circle NED-590 J1 on enclosed inquiry slip

CHECK BOTH

OXYGEN in the feedwater | **HYDROGEN in the steam**



OXYGEN is well known to be an active source of boiler corrosion. The oxygen dissolved in feedwater is determined directly and continuously recorded upon the Cambridge Dissolved Oxygen Recorder.

The oxygen set free by dissociation of the water in the boiler is equally damaging. Its presence is determined by measuring the free hydrogen in the steam condensate. Cambridge Analyzer-Recorders provide continuous records of both the oxygen dissolved in the feedwater and the hydrogen in the steam—on one chart if desired, thus enabling prompt corrective measures to be taken.

Complimentary copies of these bulletins will be sent upon request.

A.S.T.M. BULLETIN D1588-58T
CAMBRIDGE BULLETIN NO. 148 BP

Instrument shown may be used to record either O_2 or H_2 or both simultaneously. Cambridge also makes Hydrazine Analyzers, pH Recorders and instruments for analyzing gaseous mixtures.

CAMBRIDGE INSTRUMENT CO., INC.
1663 Graybar Bldg., 420 Lex. Ave., N.Y. 17, N.Y.

CAMBRIDGE
Dissolved O_2 & H_2 ANALYZERS

Pioneer Manufacturers of Precision Instruments

For more details circle NED-593 J1 on enclosed inquiry slip

New Hawk 401 Utiliscope permits... AN UNPRECEDENTED PROPOSITION IN CLOSED CIRCUIT TELEVISION...

Impressed by the potential value of closed circuit television but *depressed* by reports of high initial cost, expensive maintenance, constant requirement for difficult adjustments, and general unreliability? Then listen . . . to an unprecedented proposition from the world's oldest manufacturer of industrial closed circuit television: Indoor or outdoors, in any kind of weather with practically any degree of illumination, Diamond Electronics' all new Hawk 401 Utiliscope is *guaranteed on a money-back basis* to provide a sharp, clear picture of just about anything . . . perimeter barriers, gates, transfer points, loading docks, construction areas, vehicular movement, rooftops, hazardous areas . . . all from one safe, comfortable and convenient location. The Hawk requires no special housing, no special power supply, no special adjustments for changing light and weather conditions. Just plug it into an ordinary 110 V outlet and forget about it.

See for yourself. Call, write or wire and we'll arrange a demonstration within the week.

Diamond Electronics

Diamond Power Specialty Corporation • Lancaster, Ohio

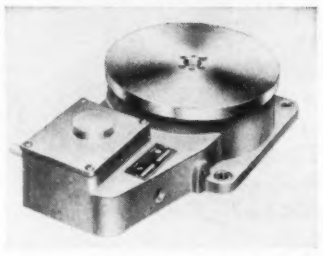
For more details circle NED-594 J1 on enclosed inquiry slip

PLANT MOTOR SCOOTER
one or two speed unit has many uses

A Briggs & Stratton 3-hp gasoline engine drives the Men-E-Uses intraplant motor scooter at up to 16 mph and delivers 50 mpg in messenger service, mail or product delivery, and night watchman patrols. Lightweight three-wheeled unit incorporates a double compartment to hold record forms, pencils, rubber stamps, and other items in the steering handle. Accessories include a large basket attachable to the steering column, extra rear sulky seat, and trailer (see photo). Accelerator and brake are controlled by the Accelebrake, a single foot pedal. Single or double-speed models are available on the automatic transmission equipped 177-lb vehicle. Standard equipment includes three Goodyear Super Rib low pressure tires. Price without accessories is $258. • **Flinchbaugh Co.**, 390 Eberts Lane, York, Pa.

For more details circle NED-595 J1 on enclosed inquiry slip

INDEX TABLES
in 10 and 18-in. diameter models



Both the turning motion and positive locking action of these 10 and 18-in. index tables are entirely mechanical and without backlash. Worm gear drive operates in a sealed-in oil bath and has a slow start and slow stop of the index motion. Index time can be as brief as 1/3 sec, or designed to meet any required time factor. The 10-in. table is adaptable to 1/4-hp electric, rotary air, or hydraulic motors for handling loads up to 200 lb. Larger table uses 1/2-hp motor for weights up to 400 lb. Tables have up to 16 and 36 stations, respectively. All rotating parts have antifriction bearings. Tables can be used singly or in multiples with electric, air, or hydraulic synchronizing controls. Rotation can be specified in either direction. • **Jackson Fluid Power Co.**, 16722 E. Warren Ave., Detroit 24, Mich.

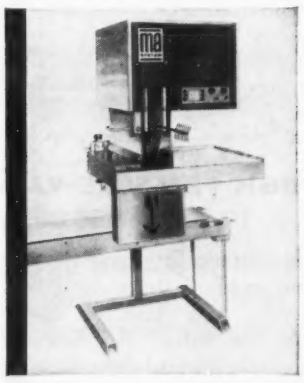
For more details circle NED-596 J1 on enclosed inquiry slip

CORRECTION

In the description of the Mobile Plan Rack for filing up to 1200 blueprints, drawings, or plans (June '61 NED), it was erroneously stated that this handy file could be adjusted to take up to 26 x 48-in. sheets. It actually can accommodate up to 36 x 48-in. drawings or sheets. The price of this vertical drawing file is $19.95. • **Plan Hold Corp.**, 5204 Chakemco St., South Gate, Calif.

For more details circle NED-597 J1 on enclosed inquiry slip

A new low-cost automated polyethylene packaging system



FUNCTION: Completely packages products in polyethylene film—in one operation—in your plant. Produces inexpensive loose or shrink-fit polyethylene packages around regular, odd-shaped or out-sized products of all types. **ADVANTAGES:** Uses polyethylene roll stock. Saves up to 50% on material costs over ready-made bags and other packaging methods and materials. • Boosts in-plant packaging efficiency, produces up to 30 packages per minute at reduced labor costs. • Provides a self-selling plain or printed package that protects, displays, reduces damage caused by excessive handling. • Simple to Operate—Easy to Maintain. **COST:** Complete MA Systems normally range from $2300 to $5000. **FREE OFFER:** Let the MA System test-package your product in durable, transparent polyethylene. Send us a sample, or write for complete details on this revolutionary packaging system to either: Mehl Manufacturing Company, 2057 Reading Road, Cincinnati 2, Ohio—or—Kordite Company, Macedon, New York.

ma SYSTEM

For more details circle NED-598 J1 on enclosed inquiry slip

PYREX® panel heaters for uniform heat over wide areas

Every square inch of this PYREX panel heater's surface gives you the same amount of even, efficient heat. Because the entire panel is the element, troublesome hot and cold spots are eliminated. Your products will absorb as much as 90% of its long-wave, "far-infrared" energy for really *fast, thorough* drying, curing, baking.

FOUR OTHER EXCELLENT PYREX PANEL HEATER ADVANTAGES

1. PYREX panel heaters are color blind — uniformly dry any material regardless of color.
2. They save space and heat in a small area, because you don't have to warm up a lot of air first.
3. The panels cool slowly, so they eliminate temperature fluctuations—especially where heating is intermittent.
4. You have accurate control of temperature from start-up to shut-off. Panels pull only a 10% surge on start-up.

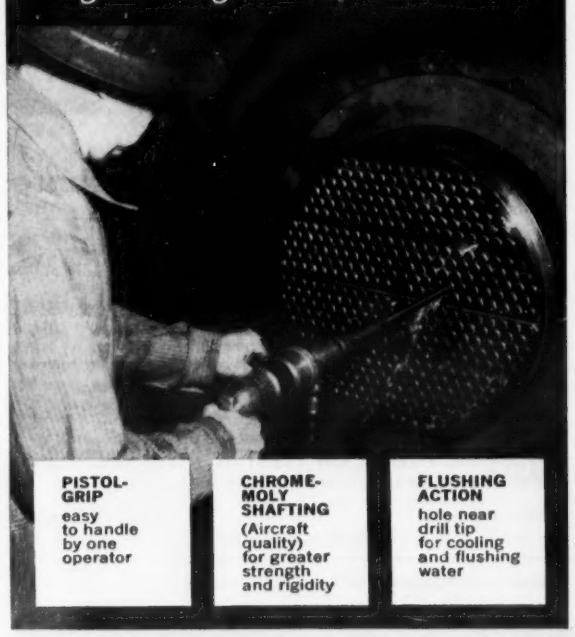
NEW BULLETIN PE-70 explains in detail how PYREX panel heaters work, contains specifications and applications. For a copy, write to Industrial Components Department, 5609 Crystal Street, Corning, N. Y.

CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

For more details circle NED-599 J1 on enclosed inquiry slip

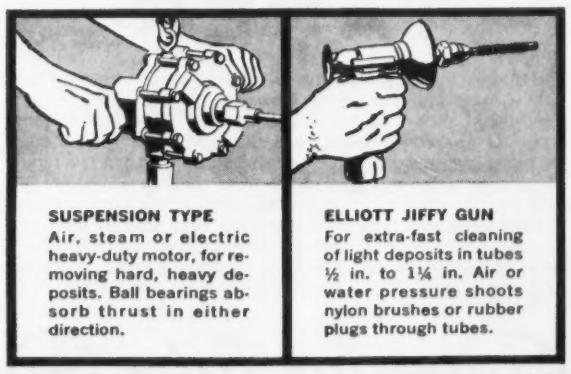
newest ELLIOTT tube cleaner

lightweight! air-driven!



for condenser and heat exchanger tubes

Lightweight. Powerful. Air-driven. Trigger-action control with speed governor to prevent shaft-whip. High-speed motor reduced through planetary gears to 1500 rpm. Integral water-feeding attachment with finger-action valve which controls flow of cooling water into hollow shaft and drill or brush. Drills and brushes for varied needs. Built-in oil reservoir. Send for tube cleaner bulletin Y-48.

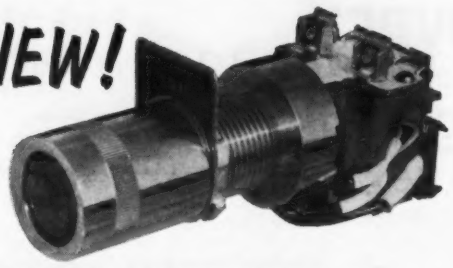


YI-3A

ELLIOTT COMPANY
GENERAL OFFICES: JEANNETTE, PENNSYLVANIA
PLANTS AT: Jeannette and Ridgway, Pa.; Springfield, Ohio; Newark, N. J.

For more details circle NED-600 J1 on enclosed inquiry slip

NEW!



EXPLOSION PROOF (NEMA 7)
LIGHTED PUSHBUTTON STATION
Half the Space—Twice the Convenience

USE IT { AS A COMBINATION PUSHBUTTON-PILOT LIGHT / AS A PUSH-TO-TEST PILOT LIGHT

- All Standard Colors
- 110v., 220v., or 440v.
- 4 11/16" Overall Length

AVAILABLE NOW—
As individual units
in Nema 7 enclosures

NELSON Electric MANUFACTURING CO.
TULSA, OKLAHOMA
P. O. BOX 5385 NATIONAL 7-5530
For more details circle NED-602 J1 on enclosed inquiry slip

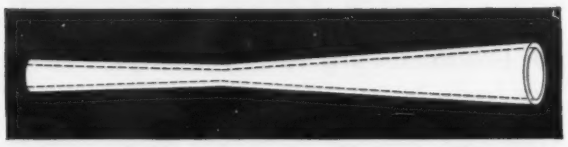
MEASURE
RPM EASY—
IMMEDIATELY—
ELECTRONICALLY!
NEW
Pioneer Photo
•TACHOMETER•

COMPLETELY TRANSISTORIZED CIRCUITRY

Press the button, aim the beam, read the speed . . . that's how easy and fast RPM measurement is with the new Pioneer Photo Tachometer. Ideal for use on lathes, drills, presses, drives and wheels. Operates electronically, with no wires or mechanical connections. Send for free bulletin.

THE PIONEER ELECTRIC & RESEARCH CORP.
Subsidiary of Penn Controls, Inc.
727 Circle Avenue • Forest Park, Illinois
For more details circle NED-603 J1 on enclosed inquiry slip

Tomorrow's tubing technology—today



New! A fourth dimension in small diameter tubing . . .

TAPER

You have probably thought of tubing as 3-dimensional—OD, ID and wall thickness. Now we offer it with a fourth dimension—taper. And it is available in several variations, straight tapered—uniform wall, straight tapered—tapered wall, straight tapered—reverse tapered wall, and in two types of reverse tapered. Sizes range from .080 to 1.500 in. OD with wall thicknesses from .012 to .0625 in. Materials include any of the more than 120 standard and special analyses regularly supplied by Superior. Data Memorandum No. 29-A gives complete details. Write for your copy today. Superior Tube Company, 2018 Germantown Ave., Norristown, Pa.

Superior Tube ST
The big name in small tubing
NORRISTOWN, PA.
West Coast: Pacific Tube Company, Los Angeles, California
For more details circle NED-604 J1 on enclosed inquiry slip

METAL CALENDAR BOARD
erasable writing type for scheduling

Visible scheduling of work and activities in shop, office, field, or laboratory is conducted on the Magna-Cal perpetual type calendar board. Made of light metal with a white baked enamel finish, it is usable indoors or outdoors. User writes in 4¾ x 4-in. spaces with black or colored china marking pencils, and erases with cloth or paper towel. Flexible magnetic date pieces numbered from 1 to 31 are used and changed as dates change or expire. Chart at top provides a 15-year guide for correct monthly calendar starting dates. Tray at bottom hold pencils and cards. Board is 34 x 23 in. and weighs 6 lb. Complete board and accessory kit lists for $19.75. • **L. D. Blehart Co.**, 10 Fiske Place, Mt. Vernon, N. Y.

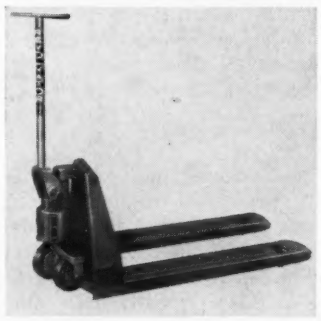
For more details circle NED-605 J1 on enclosed inquiry slip

EXTRA-LONG WORK GLOVES
protect hands and forearms

Added to the Stanflex line of liquidproof work gloves are these extra-long VL-36 gloves which protect workers' hands and forearms. The 14½-in. gloves have an outer coating of red Pylox and are reinforced with a soft, interlock knit-cotton lining. The nonslip coating resists abrasion, snagging, and tearing and will not deteriorate from contact with acids or harsh industrial chemicals. Made with a seam-free work surface, gloves stay flexible in cold temperatures or liquids. • **Pioneer Rubber Co.**, 296 Tiffin Rd., Willard, Ohio.

For more details circle NED-606 J1 on enclosed inquiry slip

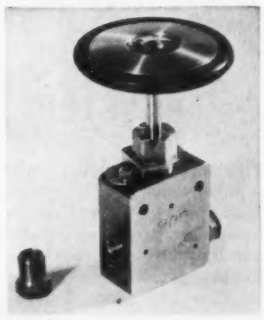
HAND LIFT TRUCK
handles single or double-face pallet



Fitted with the same machined slide planes used on Revolvator heavy-duty pallet trucks, this 2500 lb capacity Lift-Wagen Model 51.29 hand lift truck handles either single or double faced pallets. Slide planes fore and aft of the rear wheels easily lift the forks in and out of the pallets. Unit has a pull handle operated pump and a three-position foot pedal for selecting lifting, lowering, or free handle pulling. It rolls on ball-bearing 7-in. front wheels and 3¼-in. load wheels, and pumps and steers through 190 degrees for easy handling in tight spaces. Sight glass indicates hydraulic fluid level. • **Revolvator Co.**, 8701 Tonnele Ave., North Bergen, N. J.

For more details circle NED-607 J1 on enclosed inquiry slip

HIGH PRESSURE VALVES
10,000 and 30,000-psi series

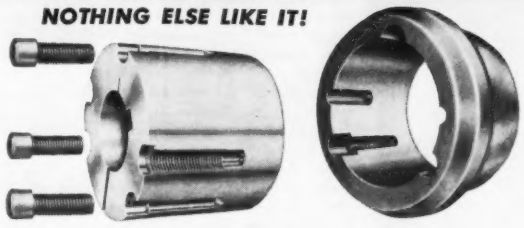


Hydrostatically tested to one and one-half times rated capacity, this line of high pressure valves has bodies, stems, and shanks of stainless steel; Teflon packing; and top packing washer of Ampco 8. Special materials can be specified. Series rated at 10,000 psi is available in ⅛, ¼, ⅜, and ½-in. sizes and the 30,000-psi series is comprised of ¼, ⅜, and 9/16-in. sizes. Both are available in straight-through, angle, metering, removable-seat, three-way—one to pressure, three-way—two to pressure, three-way two-stem, and removable-seat metering types. Stem can be adjusted to eliminate backlash while in service. Gland nuts and sleeves are supplied for each port, and stuffing boxes can be altered to suit high temperature conditions. • **Controlled Pressures Co.**, Box 402, Red Hill, Pa.

For more details circle NED-608 J1 on enclosed inquiry slip

TAPER-LOCK
BUSHINGS WITH WELD-ON HUBS

NOTHING ELSE LIKE IT!

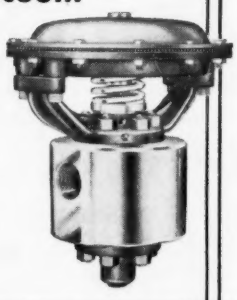


FOR your sprockets, gears, clutches, motors, impellers—for wheels of all kinds where service conditions are *really rugged*—there is nothing like TAPER-LOCK. This famous patented bushing—supplied for your use with matching TAPER-LOCK Weld-on Hub—gives you an easy-mounting, true-running unit that locks to the shaft with firmness equivalent to a shrunk-on fit. Shaft sizes ½" to 12". *WRITE* for special bulletin.
DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.
For more details circle NED-609 J1 on enclosed inquiry slip

SINCLAIR-COLLINS
DIAPHRAGM OPERATED VALVES

. . . for control of high pressure hot or cold raw water, steam, oil, air, gas or vacuum



2, 3 and 4-way, automatic 2-pressure, 5-top, lever, check and selector types • air operated • automated or manual control • stainless steel trim • aluminum bronze billet bodies • pressures from near perfect vacuum to 6000 psi • ½ to 3 in. NPT • screw or flange mounted.

For more information, write for Bulletin SC-59. Address The Sinclair-Collins Valve Company, Akron 9, Ohio, Dept. NED-961.

8120

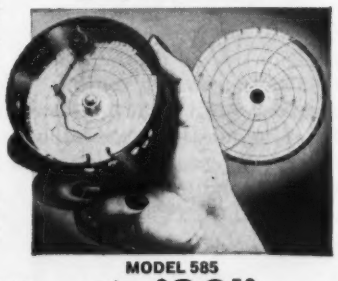
The SINCLAIR-COLLINS VALVE Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO
For more details circle NED-610 J1 on enclosed inquiry slip

NOW! A LOW COST *dry stylus*
PANDUX® RECORDING THERMOMETER

Highly portable field service unit records temperature and time on a replaceable paper chart, in permanent or temporary installations, in any position. May be packed with shipments or encased in polyethylene bag for humid or corrosive atmospheres. No ink to spill, run or freeze. May be sealed to prevent tampering. Only 3-15/16" dia. by 2-7/8", wt. 14 oz.

5 RANGES
0°F. to 100°F.
20°F. to 220°F.
40°F. to 140°F.
Minus 40°F. to 160°F.
Minus 30°F. to 70°F.*
24 HOUR or 7 DAY
Spring Clock Movement

RECOMMENDED FOR
- All types of drying and low heat ovens.
- For checking environmental rooms, chambers and equipment.
- Heating and air conditioning systems.
- Offices, factories, assembly halls, hospital rooms and other enclosures.



*Also Centigrade equivalents.

MODEL 585
only $39.50
F.O.B. LOS ANGELES
Your order will be filled through your nearest dealer.
Phone GR 8-1134 or write Dept. ND-91

PACIFIC TRANSDUCER CORP. 11836 W. Pico Blvd. Los Angeles 64, Calif.
Dealer Inquiries Invited . . . Some Territories Still Open.
For more details circle NED-611 J1 on enclosed inquiry slip

Stow Flexible Tool Shafts Deliver Job-Rated Performance

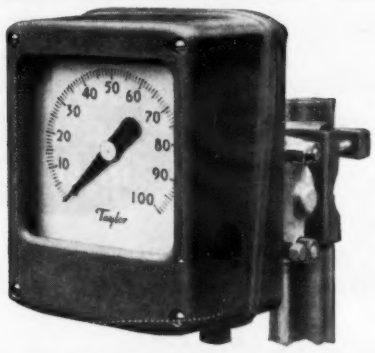
Stow Flexible Tool Shafts are ideally suited for production grinding, polishing, sanding, plus many other finishing operations. Stow shafts help to increase precision and to eliminate operator fatigue. Flexibility and ease with which the handpiece can be maneuvered permits a freedom of operation that can not be equalled with any other portable tool.

Equip idle motors or gas engines with Stow Tool Shafts. Harness your available power in planning production short-cuts. Only precision ball bearings are used in the motor connections and handpieces. High quality shaft cores and rubber, oil-resistant casings are used in all sizes.

A large number of single-speed and multi-speed complete flexible shaft machines are immediately available. Capacities from 1/4 HP to 3 HP with speeds to 6800 RPM. See how Stow Flexible Shafting can work for you. **Send for Catalog 59.**

STOW MANUFACTURING CO.
26 Shear Street • Binghamton, New York

▲ For more details circle **NED-612 J1** on enclosed inquiry slip ▲



NEW FROM *Taylor*

A DP TRANSMITTER OF MANY USES

The Taylor 212T TRANSCOPE* Transmitter is first and foremost a superior DP Transmitter, but when used for flow it can be calibrated to give a linear output without additional parts.

Liquid-filled primary unit means positive overrange protection to full body rating in *either* direction . . . isolation of internal parts . . . built-in damping. Normal range span is 20-250" water, but performance is good with over calibration in either direction.

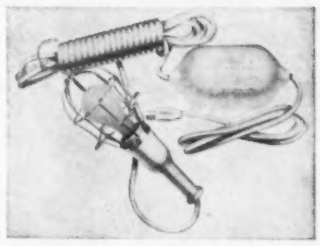
Indicating model shown has big 11¾" scale, visible up to 35 ft. away. "Blind" model also available.

Call your Taylor Field Engineer or write for **Bulletin 98413.** Taylor Instrument Companies, Rochester, N.Y., and Toronto, Ontario. *Trade Mark

Taylor Instruments **MEAN ACCURACY FIRST**

▲ For more details circle **NED-613 J1** on enclosed inquiry slip ▲

SAFE SERVICE LIGHT
6-v light reduces shock hazard



Danger of serious electrical shock is reduced with LV-Series service light which provides a 6-v power and light source. Units operate on 110-120 v and are supplied with 6 ft of yellow rubber cord with plug on input side of a neoprene-encased transformer, 25 ft of yellow cord on the output side of transformer, and the lampguard. Transformer steps voltage down to 6 v. Models with reflectors or vaporproof glass globes are available and accommodate 75-w, 6-v lamps. • **McGill Mfg. Co.,** Electrical Div., Valparaiso, Ind.

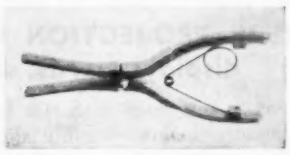
▲ For more details circle **NED-615 J1** on enclosed inquiry slip ▲

LIGHTWEIGHT RESPIRATOR
has mask-mounted regulator

Operating on the demand principle, the mask-mounted regulator of this compact, lightweight respirator supplies air in any amount required by the wearer. Control at the front is adjusted to provide a continuous cooling flow of air for workers in humid atmospheres and to eliminate fogging. Small neoprene supply hose passes from the regulator over the wearer's shoulder and back, connecting to a low pressure air supply line with standard fittings. Full face mask and half mask models are available. • **Scott Aviation Corp.,** 209 Erie St., Lancaster, N. Y.

▲ For more details circle **NED-616 J1** on enclosed inquiry slip ▲

PRESS TOOL LINE
includes safety pliers, lifters



Special aluminum alloy used in various sizes of safety pliers, tongs, vacuum lifters, and stock pushers has high tensile strength, but will crush or flatten out if engaged between the dies. Tools are used in the feeding of punch, forging, air, and hydraulic presses, drop hammers, and similar machines dangerous to feed by hand. Larger tongs can be used with heavy work gloves. Vacuum lifters in several length and cup sizes will lift pieces weighing up to 10 lb. Several lengths of stock pushers have straight rod ends or 90-degree offset ends. • **Searjeant Metal Products, Inc.,** Box 54, Mendon, N. Y.

▲ For more details circle **NED-617 J1** on enclosed inquiry slip ▲

Textile Counting Plates - $1.00 Henry Disc. - $10.00 Battery Disc - $10.00

** All electric and battery handles - other parts are interchangeable—phone or write for catalog or contact your local dealer*

E. W. PIKE & CO., INC.
577 Pennsylvania Ave. • Elizabeth, New Jersey • EL 2-0630

▲ For more details circle **NED-619 J1** on enclosed inquiry slip ▲

80% More Capacity—Far Less Space

HI...in capacity—will handle up to double the load.
HI...in versatility—More load with no increase in size or weight.
HI...in performance—Fin and fan cooled for greater capacity with less heat rise.
HI...in value—all new design for long life and minimum maintenance.

HI-Line reducers are available in six new series ranging from 1.33" to 5.25" centerdistance. Standard models in each series include vertical with high or low base and horizontal models with worm upper or lower.

Write for free Catalog

Manufacturers of gears and speed reducers-both stock and special

Ohio **OHIO GEAR Company**
1402 East 179th St. • Cleveland 10, Ohio

▲ For more details circle **NED-620 J1** on enclosed inquiry slip ▲

RAYMOND®

Four Directional Narrow Aisle Electric Truck

SOLVES TWO BASIC WAREHOUSE PROBLEMS: handling long loads and gaining more storage space. Travels sideways with cumbersome loads into aisles as narrow as 7½ feet; also used for regular handling. Can increase warehouse capacity up to 50% or more! Send for bulletin.

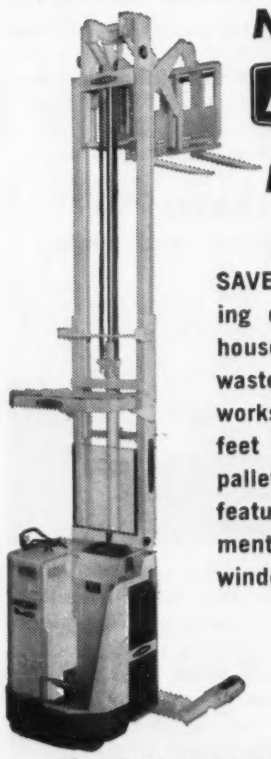
2,000, 3,000 & 4,000 lb. capacities.

The RAYMOND CORPORATION
4153 Madison St., Greene, N.Y.

▲ For more details circle **NED-614 J1** on enclosed inquiry slip ▲

NEW

RAYMOND®



Narrow Aisle Reach-Fork®

SAVES YOU THE COST of building or leasing another warehouse. Reach-Fork eliminates wasteful 10- and 12-foot aisles; works in aisles as narrow as 6 feet using present racks and pallets. NEW Reach-Fork model features 40 important improvements including new "picture window" visibility. 2,000 and 3,000 lb. capacities. Send for bulletin.

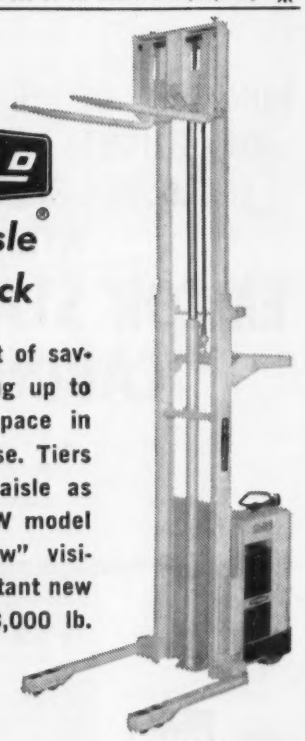
The RAYMOND CORPORATION
4152 Madison St., Greene, N.Y.

▲ For more details circle **NED-618 J1** on enclosed inquiry slip ▲

NEW

RAYMOND®

Narrow Aisle Electric Truck



PAYS FOR ITSELF out of savings gained in creating up to 50% more storage space in your present warehouse. Tiers ceiling-high from an aisle as narrow as 6 feet. NEW model offers "picture window" visibility—one of 40 important new features. 2,000 and 3,000 lb. capacities. Send for bulletin.

The RAYMOND CORPORATION
4151 Madison St., Greene, N.Y.

▲ For more details circle **NED-621 J1** on enclosed inquiry slip ▲

▲ For more details circle NED-625 J1 on enclosed inquiry slip ▲

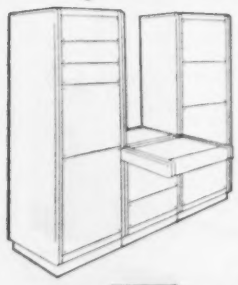
Helicoid Gages give **Sustained Accuracy,** even on the toughest jobs

★ Exclusive Helicoid movement has no gears, no teeth. Shock-proof construction protects accuracy through millions of cycles.
★ Bourdon tubes available in four materials—bronze, steel, stainless steel, and K Monel—won't stretch, crack, or leak.
★ Six cases, including new solid-front safety case, meet every mounting requirement.
★ External pointer adjustment can't be jarred out of position.
★ A complete selection of gages and accessories for hydraulic, chemical, and other service.

Write for Catalog DH-65.

HELICOID GAGES ACCO
Helicoid Gage Division
American Chain & Cable Company, Inc.
929-J Connecticut Avenue • Bridgeport 2, Conn.

▲ For more details circle NED-626 J1 on enclosed inquiry slip ▲

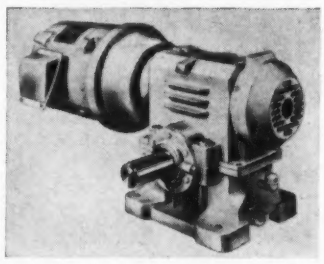


- Cut costly enclosure design time . . . choose from hundreds of EMCOR Standard Cabinet widths, depths and heights.
- EMCOR MODULAR ENCLOSURE SYSTEM Cabinetry provides for thousands of control center combinations.
- Compatible cabinet design assures simplified and economical expansion at any time.
- Nationwide organization of EMCOR Sales-Engineering Representatives assist in planning and assure customer satisfaction beyond the sale.

WRITE TODAY FOR CATALOG 106
Originators of the Modular Enclosure System
INGERSOLL PRODUCTS
Division of Borg-Warner Corporation
1000 W.120th ST. • DEPT. 1247 • CHICAGO 43, ILL.
BORG-WARNER

▲ For more details circle NED-627 J1 on enclosed inquiry slip ▲

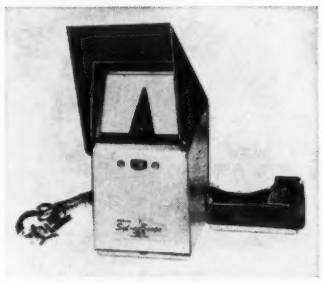
SPEED REDUCERS
eight sizes from 1 to 20 hp



High capacity Delroyd involute helicoid thread form incorporated in this line of motorized worm gear speed reducers facilitates installation and interchange of motors. Reducers are available with any standard NEMA Type D flange motor from 1 to 20 hp. Eight sizes have speed ratios of 5:1 to 70:1 and higher, either single or double-ended gear shafts, and center distances from 2½ to 8 in. Motor-worm shaft couplings require no lubrication. Gearing is generated to produce leaving-side contact which provides an entering-side gap for lubricant. • **De Laval-Holroyd, Inc.,** 121 First Ave., Trenton 2, N. J.

▲ For more details circle NED-628 J1 on enclosed inquiry slip ▲

STYLUS INSPECTION DEVICE
linear magnification increased



Improvements made in the Syl-A-Scope SG-66, a device for inspecting phono stylii and other small parts, include a system of lenses that increase linear magnification from 64X to 89X. Depth of field has been improved to facilitate focusing, and bulb housing redesigned to enhance appearance. A visor fits around the screen and shields it from strong light. Device can be used to examine small tool ends and check surface smoothness of small precision castings. It operates on optical comparison principles from 120 v ac power outlet. Image of part is magnified and reflected up on 2¼ x 2⅝-in. screen which can be calibrated. • **Robins Industries Corp.,** 36-27 Prince, Flushing 54, N. Y.

▲ For more details circle NED-629 J1 on enclosed inquiry slip ▲

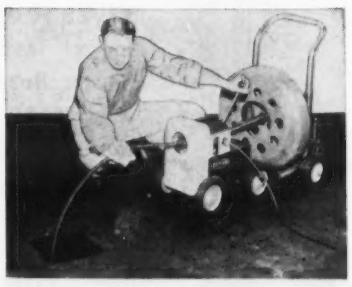
REAR PROJECTION READOUT
displays words, digits, colors

Lens system used in Series 160ooo rear projection data readouts makes possible display on almost the full viewing screen face. Over 1½ sq in. of usable viewing

area is used to display words, digits, special characters, and colors, singly or in combination. Multiple word messages may also be communicated by using the full top to bottom viewing area. Readouts are available in assemblies as shown or as individual units. Each measures 6½ x 1 9/16 x 2⅝ in. • **Industrial Electronic Engineers, Inc.,** 5528 Vineland Ave., North Hollywood, Calif.

▲ For more details circle NED-630 J1 on enclosed inquiry slip ▲

SEWER & DRAIN CLEANERS
line includes machines and tools



Sewer and drain cleaning machine and tool line includes suction cups, closet augers, offset handle cables, hand and power drain cleaners, drain and root solvent compounds, and portable power machines. The No. 420 sewer cleaner uses either a separate drum dolly holding 100 ft of ⅞-in. cable or 15-ft sections of cable with quick-connect-disconnect couplings. Power feed is available. No. 320 portable power machine cleans 1½ to 4-in. drain and sewer lines, holding 100-ft of oil tempered cable and using any of five cutting tools. Lines up to 3 in. can be cleaned by the hand-held, self-contained Oster power drain cleaner holding up to 50 ft of ⅜-in. cable. • **Oster Mfg. Co.,** 1340 E. 289th St., Wickliffe, Ohio.

▲ For more details circle NED-631 J1 on enclosed inquiry slip ▲

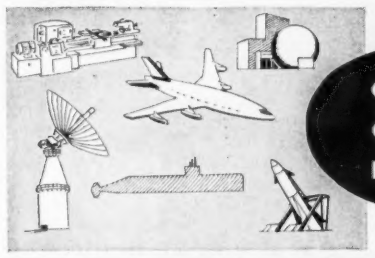
One Hoffman Bit Drills Up to 15,000 Godet Wheels With No Downtime

Up to 15,000 Godet Wheels drilled with center hole tolerance 1.5 min. to 1.53 max.—with one Hoffman Laboratory Bit. Actual production figures that are being duplicated by many Hoffman Bit users for precision drilling of glass, ceramics, quartz, etc. Diamond impregnated or oriented surface set.

Write for Literature and Prices—FREE Ask about Hoffman Diamond Impregnated Metal Coring Bits and Diamond Segmented Circular Saws

HOFFMAN BROS. DRILLING CO.
SINCE 1902
106 Cedar Street PUNXSUTAWNEY, PENNA.

▲ For more details circle NED-632 J1 on enclosed inquiry slip ▲



ON LAND
ON SEA
IN SPACE

Performance is Better with

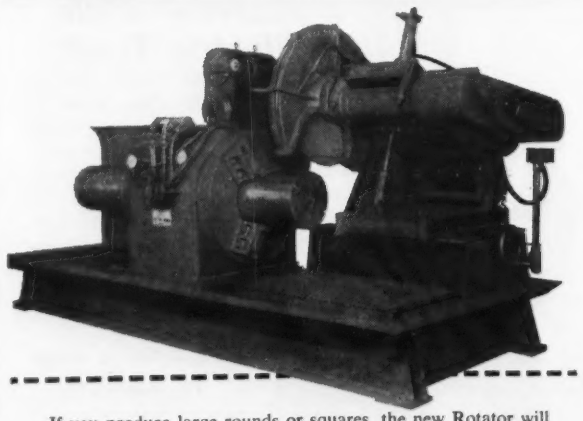
JERPBAK BAYLESS
34170 Solon Rd.
Cleveland 39, Ohio

ACTUATOR SCREW
and
NUT ASSEMBLIES

Write For Literature

▲ For more details circle NED-633 J1 on enclosed inquiry slip ▲

Orbit Saw Cuts Rotating Metal
Single or Double Chucks Up to 22" O. D.



If you produce large rounds or squares, the new Rotator will reduce your cutting time to a minimum . . . 16 to 20 square inches per minute on hard alloys. It's the only rotator-type saw with a chuck that will hold rough forgings and rounds, as well as conventional rounds up to 22" diameter. Material is rotated as it is cut, keeping a cooler surface at the point of blade contact . . . result — longer blade life. Self-contained and portable, with integral tank and re-circulation pump.

Ty-Sa-Man SINCE 1885
Write for FREE BULLETIN
TY-SA-MAN Machine Co., Inc.
550 White Ave., Knoxville, Tenn.

▲ For more details circle NED-634 J1 on enclosed inquiry slip ▲

ANY PRODUCT IS BETTER WITH CONTINENTAL RED SEAL POWER

Horizontal Shaft. Also available with 6:1 gear reduction (AR Series)—2 to 4 HP

Vertical shaft—2 to 3 HP

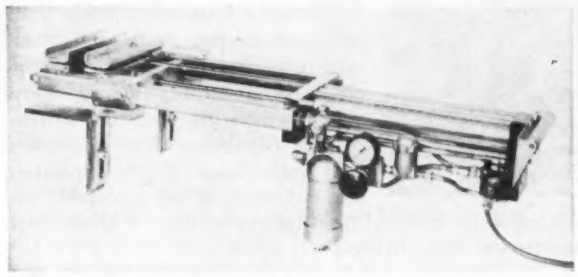
. . . because Continental air-cooled engines are built up to a standard of excellence, not down to a price. Their rugged design and construction assures long dependable service with minimum down-time. Backed by a world-wide service organization.

Continental Motors Corporation
INDUSTRIAL AIR-COOLED ENGINE DIVISION
12800 KERCHEVAL AVENUE • DETROIT 15, MICHIGAN

For more details circle NED-635 J1 on enclosed inquiry slip

COIL & STRIP FEED UNIT
air-operated unit for punch presses

Hand-fed punch presses, press brakes, and square shears are converted to high-speed automatic feed with this air-operated portable coil and strip feed unit. It will



feed light gage material up to 24 in. wide in strokes to 12 in. at speeds to 350 strokes per minute, or stock thickness to 11 gage in narrower widths. Most materials weighing up to 2½ lb per lineal foot can be handled. Readily transferred from one machine to another, the versatile unit can be mounted to feed from right to left, left to right, or front to back as either a pull or push feeder. Stroke adjustment is controllable to ±0.002 in. • **Power Control Products, Inc.,** Vicksburg, Mich.

For more details circle NED-638 J1 on enclosed inquiry slip

HIGH-LIFT JACK
lifts 500-lb loads up to 15 ft

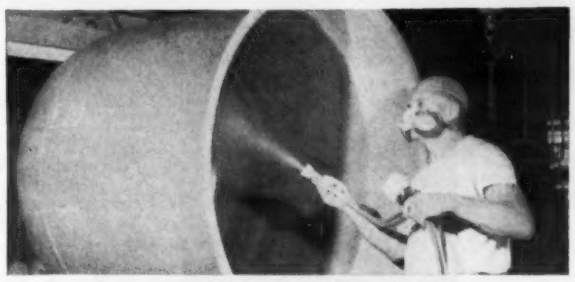
Useful for handling heavy loads, installing air conditioners and heating units, supporting scaffolding, and for similar tasks, the Hi-Jack lift is maneuverable in close quarters. One man and a single unit can lift a 500-lb load up to 15 ft at about 3 fpm. With two jacks and pipe extensions slipped over or through the platform prongs, loads of 2000 to 3000 lb can be handled. Unit is easily taken down and reassembled; its heaviest part being the 40-lb base. A ceiling or wall stabilizer is used to increase load carrying capacity. Outriggers of 1¼-in. pipe also add stability. Lifting jack operates with an up-and-down action. • **Vermette Machine Co.,** 7 143rd St., Hammond, Ind.

For more details circle NED-639 J1 on enclosed inquiry slip

Grinding Stresses

Booklet "Grinding Stresses: Cause, Effect and Control" is made up of 82 pages of collected papers on the subject that have appeared in the trade press, and are based on research conducted at the Mellon Institute. Available only by writing on company letterhead to **Grinding Wheel Institute,** 2130 Keith Bldg., Cleveland 15, Ohio.

For more details circle NED-640 J1 on enclosed inquiry slip



PLASTIC-COATED EQUIPMENT that resists corrosion, now available from Pfaudler

You can now get from Pfaudler a wide range of process equipment protected against corrosion by a new plastic coating based on Penton.†

Called Pfaudlon 301,* it is resistant to the corrosive effects of virtually all acids and alkalies, plus many solvents, at temperatures up to 210°F and in some cases even higher.

Since Pfaudlon 301 is sprayed on and then fired, coating complex shapes is no problem. We've put it on such items as agitators, centrifuge baskets and parts, valves, pump impellers and casings, and tanks—both *inside* and *outside*.

It can be applied to mild steel, cast iron, stainless steel, the Hastelloys, brass, bronze and copper.

Nine firms are licensed to apply Pfaudlon 301 to your existing equipment. Or you can order *new* equipment, fabricated and coated by Pfaudler with the new material.

For full details, write to our Pfaudler Division, Dept. NED-91, Rochester 3, New York.

†Hercules chlorinated polyether *Patent applied for

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

For more details circle NED-641 J1 on enclosed inquiry slip

BEVERLY SHEARS SAVE TIME · LABOR · MATERIAL

Make any cut—curved, straight or irregular, faster, easier and better with less material waste on a Beverly Throatless Shear. You can turn work to *any* position and make a clean cut as you go. Handles heavy gauges with ease—lighter metals without distortion. 4 models—capacities 18 gauge to 3/16" mild.

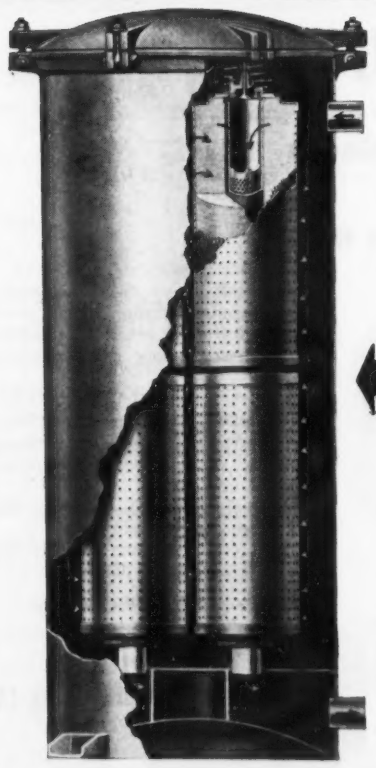
INSIDE SLOTTER
8" Reach—16 ga. capacity

Makes inside slotting cutting faster, easier, cleaner. Punch and die arrangement of 5 blades assures accuracy, clean cutting action. Cuts 2½" x ⅛" or 2½" x 1/16" slot at one stroke. Throat design permits pivoting work at any point in stroke for special inside cuts. Note sample cuts at left.

See your Beverly Dealer or write for illustrated catalog.

Beverly SHEAR MFG. CORP.
3016 W. 111TH STREET • CHICAGO 55, ILLINOIS

For more details circle NED-636 J1 on enclosed inquiry slip



HILCO
FOR SUPER FILTRATION OF ALL TYPES OF LIQUIDS
HILCO FILTERS CUT COSTS

Filter Cartridges of All Types to Take Care of Your Specific Filtration Problems . . .

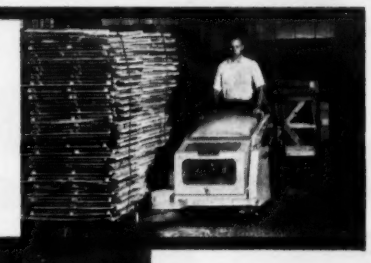
HILCO'S ELIMINATE : VARNISH AND SLUDGE DEPOSITS : FLUSHING AND MANUAL CLEANING : FREQUENT LIQUID CHANGES :

• *Write for FREE Literature*

THE HILLIARD CORPORATION
31 W. FOURTH ST. • ELMIRA, N. Y.
IN CANADA . . . UPTON-BRADEEN-JAMES, LTD.
890 YONGE ST., TORONTO • 8760 VERVILLE ST., MONTREAL

For more details circle NED-637 J1 on enclosed inquiry slip

Clarke
POWER SWEEPERS



Walking Type power sweepers in 27" and 36" swath sizes. Riding sulky available for 36" size.

Riding Type sweeps 36" swath, is easily maneuvered, even in congested areas.

Heavy Duty Riding Type sweeps 36" swath, is built like a tank for 'round the clock use.

CUT SWEEPING COSTS UP TO 80%

These rugged workhorses will outstrip twenty men with pushbrooms in sweeping large floor areas! They cover from 35,000 to 100,000 sq. ft. per hour, sweeping right up to the walls, picking up all debris and dust. Available in walking, sulky and riding types to reduce your sweeping costs as much as 80% . . . *give you labor costs as low as 15c per hour!*

For a demonstration on *your* floors, write for full details and name of your nearest Clarke Power Sweeper distributor.

Clarke
FLOOR MACHINE COMPANY
DIVISION OF STUDEBAKER-PACKARD CORPORATION
2298 Clay Avenue
Muskegon, Michigan

Authorized Sales Representatives and Service Branches in Principal Cities
IN CANADA: Clarke Floor Machine Co., (Canada) Ltd., 21 Advance Rd., Toronto 18, Ont.
DISTRIBUTED BY: Rudel Machinery Company Limited, Montreal 3, Quebec

For more details circle NED-642 J1 on enclosed inquiry slip

as low as $49.50

Check the Versa-Tran* for low-cost, accurate, automatic control of

- TEMPERATURE
- PRESSURE
- LIQUID-LEVEL
- HUMIDITY

This inexpensive controller is completely transistorized. Needs no tubes, no warm-ups . . . gives instant reaction. Works with sensors that can be thermisters, probes, resistance bulbs, pressure transducers or humidity elements. Versa-Tran can be used in packaging machines, injection molding, cooking vats, tire recapping, ice cube makers, etc. Models with standard case available as low as $39.50.

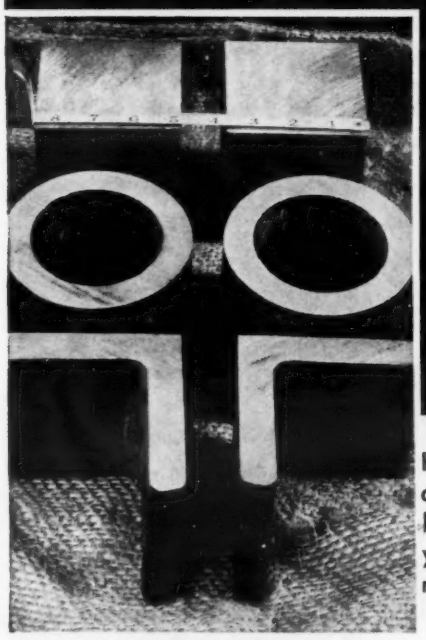
* Trademark

Honeywell

First in Control

For more details circle NED-643 J1 on enclosed inquiry slip

These 6 finely finished surfaces required only 3! operations or just 1/2 operation per end.



How do you do jobs like this in your shop now?

And in the process the metal was also severed or CUT AT THE SAME TIME.

24 seconds to cut the 2 squares
20 seconds to cut the 2 tubes
12 seconds to cut the 2 angles

OR

less than *one minute* for the whole job — Cut 3 pieces! And also finish 6 ends at the *same time.*

Can you afford not to investigate?

BUckingham 1-7000

Write or phone COLLECT to Klaus von Frantzius.
Ask for information about "Cut-Machining"

WALLACE
SUPPLIES MFG. COMPANY
3512 N. RAVENSWOOD AVE. • CHICAGO 13, ILLINOIS

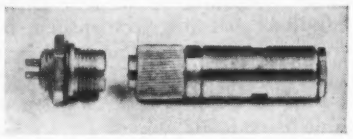
For more details circle NED-644 J1 on enclosed inquiry slip

CARBIDE DRILL
assures hole accuracy in plastics

Hole size accuracy in drilling printed circuit boards made of hard plastics is retained by the EZ-Drill, a long-life carbide drill designed to run cool and minimize cracking and closing of the hole. Point geometry and sharp cutting edges give the tool a free-cutting capability that minimizes drill point heat. Hi-hard plastics are cut instead of punched, reducing scrap loss and need for reworking. • **Dixie Tool Industries, Inc.,** Bridgeport, Mich.

For more details circle NED-645 J1 on enclosed inquiry slip

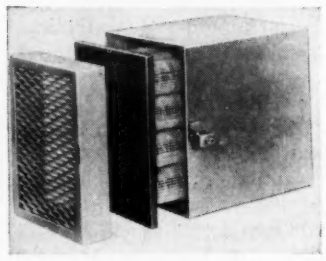
MINIATURE PLUG CONNECTORS
for uses involving two power leads



Twinax Miniature series of plug connectors is designed for subminiature applications involving a common shield over a twisted pair of wires, or for requirements involving two power leads. Identical inserts with either male or female contracts are used for both plug and receptacle. Tightening the clamp nut causes a compression spring to force the braid forward, insuring a vibrationproof ground between the braid clamp and bushing. Conventional saddle clamps are available for nonshielded wires. For shielded plugs, a collet clamping kit is offered which prevents cable rotation and increases cable retention. • **Cannon Electric Co.,** 1943 Placentia Ave., Costa Mesa, Calif.

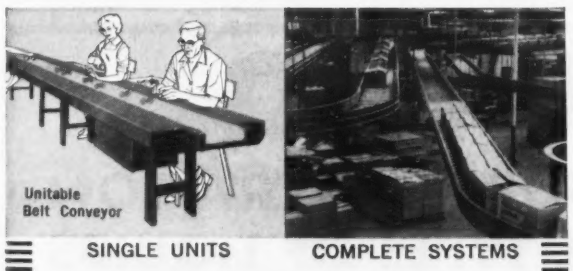
For more details circle NED-646 J1 on enclosed inquiry slip

ENGINE AIR CLEANER
for mobile and stationary equipment



Available in 12 sizes for truck, tractor, and stationary engines rated 10 to 1000 hp, Long Life single-stage dry type engine air cleaners have a rectangular housing and a modular filter cartridge. Filters have high dirt-holding capacity. The face plate is a disposable Pamic rubber-like plastic into which the filter paper is molded. Face plate acts as an integral seal when locked in the housing. One model has a retainer frame to lock the filter cartridge in the housing, and the other includes a moisture eliminator to prevent airborne water droplets from entering the cartridge. Either can be equipped with a rain guard and a filter service indicator which signals a need for a filter change. • **Farr Co.,** Box 90187, Airport Station, Los Angeles 45, Calif.

For more details circle NED-647 J1 on enclosed inquiry slip



SINGLE UNITS COMPLETE SYSTEMS

UNIBILT®
CONVEYORS
PAY OFF FOR YOU

Right from the start when you gain the cost advantage of assembling Conveyors from standardized, pre-engineered components.

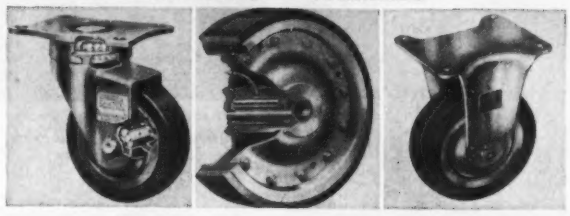
In the long run when you gain the cost advantage of operating conveyors that are proven trouble-free in thousands of installations.

Write for Full Line Bulletin

CONVEYOR SPECIALTY COMPANY, INCORPORATED
Distributors in Principal Cities
37 Newport Avenue, North Quincy 71, Mass.

For more details circle NED-648 J1 on enclosed inquiry slip

ECONOMIZE— STANDARDIZE—
...WITH
DARNELL LONGER LASTING CASTERS & WHEELS



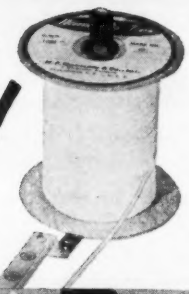
There is a type of Darnell Caster or Wheel for every kind of use and floor. Made for light, medium and heavy-duty service, you are sure to find in the Darnell line the exact caster or wheel to meet your individual requirements . . .

ASK FOR FREE MANUAL

DARNELL CORPORATION, LTD.
DOWNEY (Los Angeles County) CALIF.
37-28 SIXTY-FIRST, WOODSIDE 77, L.I., N.Y.
36 NORTH CLINTON ST., CHICAGO 6, ILL.
1000 PEACHTREE N. E., ATLANTA, GA.

For more details circle NED-649 J1 on enclosed inquiry slip

Speed Tying Operations!



- ★ Cheaper than String
- ★ Faster than Tying
- ★ Sure Grip — no Knots
- ★ New Measuring Cutter

Measuring Cutter
$7.95 Complete

Cut tying time in half! Hanscom-Ties (colorful plastic or paper covered wire) are the fast, sure way to bundle wires, cords, coils, etc. . . . temporarily and permanently. New Measuring Cutter dispenses faster than ever! Ties are cheaper by the spool (as little as 9 ft. for a penny!)

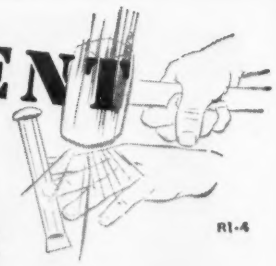
FREE TIE SAMPLES . . . TRY THEM YOURSELF!

Hanscom-Ties CUTTER
Pats. and Pats. Pend.

H. F. HANSCOM & CO., INC., 15 Virginia Ave., Providence 5, R. I., U.S.A.

For more details circle NED-650 J1 on enclosed inquiry slip

PREVENT



Mashed Hands with Safe-Hi TOOL HOLDER

R1-4

Keeps hands *away* from accidents; stops dangerous flying tools; work always in full view; greater production from relaxed, heavier more effective blows.

Resilient tougher-than-steel PLASTIC HANDLE keeps its shape. Non-Slip HAND GRIP insulates cold-hot or electric shock. Absorbs vibration, eliminates creeping.

For steel stamps, chisels, star drills, punches, stakes, drift pins.

Available in 2 man models for tools up to 2¾ inches diameter.

Safe-Hi Safety Equipment is made by

rose manufacturing co.
2700 W. BARBERRY PLACE • DENVER 4, COLORADO

For more details circle NED-651 J1 on enclosed inquiry slip

Arno® TAPES protection by the roll

- Protect machined surfaces in handling — reduce rejects
- Save finishes and plating
- Self-adhesive — easy to apply
- Remove easily, cleanly
- Types for every purpose — waterproof, non-staining, printable, high strength, high temperature.

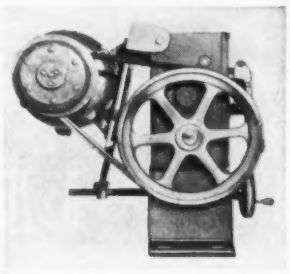
Write for FREE test sample

ARNO ADHESIVE TAPES, INC. 5223 Ohio St., Michigan City, Ind. Dr. Scholl's Adhesive Tape Division

MANUFACTURERS AGENTS WANTED FOR SOME SELECTED AREAS

▲ For more details circle NED-652 J1 on enclosed inquiry slip ▲

TRANSMISSION
affords wide speed range



The 17:1 maximum total ratio of this industrial transmission is obtained by combining a Model E-33-60 Turner transmission with a 3:1 ratio varipitch sheave. It has a leakproof aluminum case, fingertip control, and features flexibility in application. Floor space required is 10½ x 6 in. • Turner Uni-Drive Co., 3416 Terrace, Kansas City 11, Mo.

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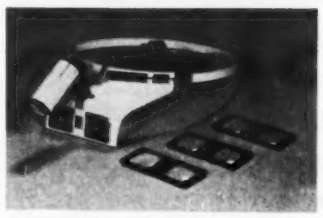
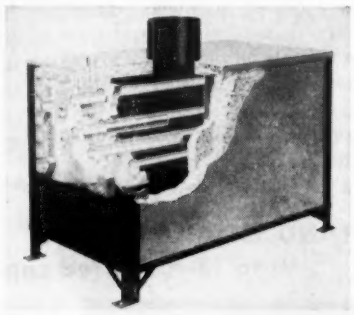
ILLUMINATED MAGNIFIER
lenses changeable on head-worn unit



Interchangeable lenses of different magnifications are easily installed on this magnifier, designed for wearing on the user's head. It permits precision handling of small objects with both hands. Basic unit consists of headpiece and a set of lenses with either low, medium, or strong magnification. Auxiliary low voltage illuminating unit has an ancillary lens which can be adjusted for spot or flood lighting and a transformer with 110-v input and 6-v output. • R. H. Dollar Co., 316 Marion Bldg., Cleveland 13, Ohio.

▲ For more details circle NED-656 J1 on enclosed inquiry slip ▲

HEAT EXCHANGER
secondary type has low head loss



Low head loss design of the Lime-Lite removable secondary heat exchanger has a 1¼-in. OD copper boiler tube running full length inside the 2-in. OD primary steel tube from header to header. Hot water or steam is generated in the primary boiler, with heat transferred to the media being circulated through the Lime-Lite unit. Full boiler capacity is obtained with a 60° F differential between primary and secondary outputs. Easy servicing and cleaning is by removing the head plates. Exchanger may be divided into one, two, or more two or three-pass sections to provide multiple services. Stainless steel, brass, Monel, or other tube materials make possible use for other applications. Magnesium anodes are optional. • Rite Engineering & Mfg. Corp., 9441 Washburn Crossing Rd., Downey, Calif.

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YOUR BEST MOVE IS TO MOVE WITH MERRILL MATERIAL HANDLING DEVICES FOR THE MOST IN Safety and Economy

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.

6 SIZES

FEATURING THIS MONTH . . .

Over 25 Material Handling Devices described in our catalog C-3. Ask for a copy.

HORIZONTAL PLATE CLAMP Rated capacity — 3 ton (6 tons per pair). Completely drop forged . . . Heat treated.

MERRILL BROTHERS
Producers of Drop and Press Forgings
56-13 Arnold Ave., Maspeth, N. Y.
T-60A

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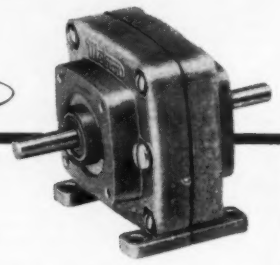
FROM Metron



BANTAM SPEED CHANGERS

RATIOS: 646 from 1:1 to 85184:1
HORSEPOWER: 0.1 maximum
TORQUE: 130 oz-in
SPEED: 10,000 RPM maximum
BACKLASH: 15′ maximum (Series 11)
WEIGHT: 16 to 45 oz depending upon ratio
BEARINGS: double, heavy-duty ball
DELIVERY: 10 days

A PART OR A PACKAGE

Bantam speed changers are only one product in Metron's complete line of small speed changing components. Call on our engineers for design help with your speed changing or control problems. Tell us what *results* you're after—what your inputs and loads are. We'll come up with an output package to do the job efficiently and economically. Send your prints today!

Metron Metron Instrument Co.
5312 So. Delaware, Littleton, Colorado
PY 8-2537 DDD: 303 TWX: DN 194

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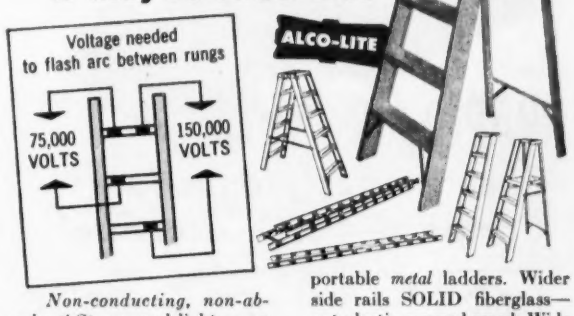
Fiberglass ladders are strong and safe....

if they're Alco-Lite



Non-conducting, non-absorbent! Strong and light as an aluminum ladder. Tested safe around high voltages. Resist chemicals, acids, gases, fumes, moisture.

Meet ASA Code A14.2 for portable *metal* ladders. Wider side rails SOLID fiberglass—not plastic covered wood. Wide steps and rungs strong aluminum alloy. Ladders rigid, last longer. Maintenance negligible. Many models and sizes. *Send for CATALOG.*

Original Manufacturer of ALUMINUM Ladders
Aluminum Ladder Company
West Darlington Street Ext.
FLORENCE 4 S. CAROLINA

▲ For more details circle NED-660 J1 on enclosed inquiry slip ▲

AIR REGULATOR
accurately controls pressures to 135 psi

DeVilbiss Air Pressure Regulator offers extreme accuracy wherever controlled air pressure is needed. Regulates pressures up to 135 lbs. with only ½-lb. variation for each 10-lb. fluctuation in main line pressure! Two stage control provides easy knob setting, sensitive regulation, less pressure drop. Compact size. Fingertip adjustment. No large, heavy springs. Two inlets and three outlets allow for any type of installation. See your supplier, or write for Form I-4001.

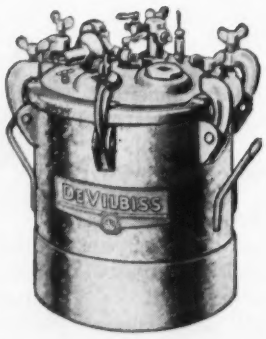
DEVILBISS
THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch Offices in Principal Cities

▲ For more details circle NED-654 J1 on enclosed inquiry slip ▲

PRESSURE-FEED TANKS
provide simple, foolproof supply system for paints, liquids

DeVilbiss Pressure-Feed Tanks are the simplest and most economical means of supplying fluids to spray guns and other devices at accurately regulated pressure. There are no working parts to get out of order . . . next to no air is required for operation . . . and they are built to last indefinitely.

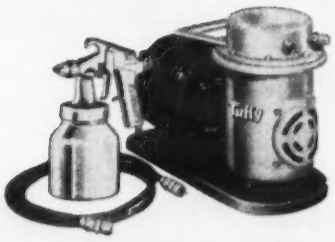
One-piece, full-drawn, galvanized tanks. Coated to prevent rust or corrosion. Available with hand or motor-driven agitation. In 2-, 5-, 10-, or 15-gallon sizes. Call your DeVilbiss supplier, or write for Form I-3201.



DEVILBISS
THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch Offices in Principal Cities

▲ For more details circle NED-658 J1 on enclosed inquiry slip ▲

Low-cost SPRAY OUTFIT makes short work of small paint jobs around the plant



Now you can complete those one- and two-hour paint jobs in a matter of minutes with the low-cost, highly portable DeVilbiss Tuffy Spray Outfit.

Tuffy outfit plugs in anywhere; takes the high cost out of painting machinery, gratings, grilles; ideal for touch-up and service jobs.

Complete outfit includes rugged compressor, built of heavy-gauge steel, mounted on rigid steel base; spray gun with cup; and 12′ air hose. Available with or without 1/3-hp motor.

Write for details.

THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch Offices in Principal Cities

DEVILBISS

▲ For more details circle NED-661 J1 on enclosed inquiry slip ▲

ENGINEERED *high volume production of*

SHELLS EYELETS STAMPINGS

for markets like these

ELECTRONICS	AIRCRAFT	ELECTRICAL
BUSINESS MACHINES	AUTOMOTIVE	APPLIANCES
GUIDED MISSILES	TIMING DEVICES	COSMETIC
FURNITURE	PEN & PENCIL	GEN'L. MFG.

MAX. BLANK 6" • MAX. DRAW 4¾"

ENGINEERING ASSISTANCE
Experienced engineers will gladly help you plan, develop, design your production.

TOOLING FACILITIES
Tools and gages for your production are built in our tooling department.

MANUFACTURING
Quality is the password; efficiency, the watchword; economy is the stability-word.

ASK FOR FREE BROCHURE
Brochure gives a complete insight into each Cly-Del department. Write for your copy now.

CLY-DEL MFG. CO.
21 SHARON ROAD
WATERBURY, CONNECTICUT

For more details circle NED-662 J1 on enclosed inquiry slip

NEW! PUNCH PRESS FEEDS

6 models

RAPID-AIR

Speeds your production
Compact—Fast—Accurate!

Rapid-Air press feeds are self-contained air operated, high speed units for feeding coil stock up to 6" wide. Easy to set up, unit mounts on die set or bolster. Write for bulletin.

MECHANICAL TOOL & ENGINEERING CO.
2323 TWENTY-THIRD AVENUE, ROCKFORD, ILLINOIS

For more details circle NED-663 J1 on enclosed inquiry slip

"I'd Rather Breathe Paint"

Other FLEX-A-PRENE "Firsts"

- Lint free — no wicking action.
- All parts non-toxic — non-allergic.
- Self-adjusting — snug-fitting.
- Simply designed for easier filter removal.
- Inside of frames serrated for airtight locking.
- Weighs only 1 ounce.
- Designed for use with goggles or spectacles.
- Only 4 tough long-wearing, interlocking parts.
- Non-irritating plastic frames — unbreakable in normal usage.
- Prenex filter outlasts all throw-away types. Savings pay the cost of a complete mask.

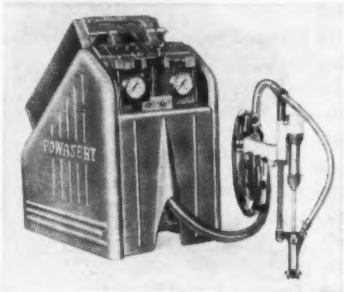
I can't let you work out there without a respirator, Jim. It's a company rule.
Well then, it's an other job for me. I'm not going to wear that monstrosity one more day.
Cool off, Jim. Our safety department has found the solution. It's the new FLEX-A-PRENE Paint Mask . . . weighs just 1 ounce complete.
Seems too good to be true! FLEX-A-PRENE's sure light and comfortable and easy to breathe through . . . but how good is it?
FLEX-A-PRENE's filter is unaffected by almost every solvent common to industrial paints . . . the only filter 100% lint free . . . no wicking action!
Our problem's solved. Jim's happy now. He's used that FLEX-A-PRENE Paint Mask for three full weeks without a filter change.
Here's safe, efficient, protection for painters with real down-to-earth economy. Savings in filter costs alone more than pay for a complete FLEX-A-PRENE Paint Mask.

sample $1.50 postpaid
Quantity prices as low as $1.15
Positive Protection Against Pigment Overspray!
(Industrial Prices Only)

FLEXO Products, Inc. Westlake, Ohio

For more details circle NED-664 J1 on enclosed inquiry slip

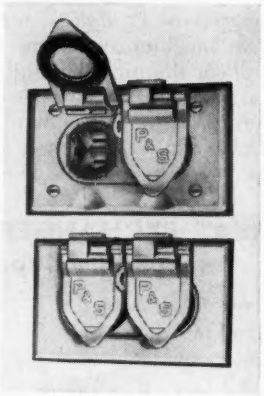
SCREW & NAIL DISPENSER
feeds automatic nailing machines



Nails or screws dumped from bulk containers into the tray of this power dispenser are automatically aligned point first and fed one at a time through a transparent, flexible hose to a Powasert portable nailing and screw-driving machine. Air at 90 psi is the only power used for aligning, feeding, and driving the fastener. Dispenser is basically the same for all 11 models of Powasert self-feeding fastening tools. It handles ½ to 4-in. long nails with any type of shank, head or point, and screws from ½ to 2 in. Fastening machine will drive nails flush or countersunk, and screws usually require no pilot holes, even in hard wood. • **United Shoe Machinery Corp.**, 140 Federal St., Boston 7, Mass.

For more details circle NED-665 J1 on enclosed inquiry slip

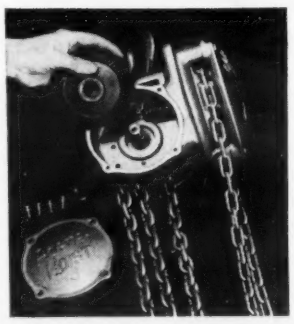
LOCKING RECEPTACLE COVERS
make any duplex outlet weatherproof



Any T-slot, parallel, 3-wire, grounding, polarized, or Turnlock duplex outlet can be made weatherproof with these aluminum spring door and locking covers for FS and switch boxes. When one half of outlet is in use, the other half is closed securely. Both covers are locked in place by a padlock. As long as lock is in place, center screw is inaccessible and cover cannot be removed. Covers have heavy rubber sealing gaskets and stainless steel springs. • **Pass & Seymour, Inc.**, Solvay Station, Syracuse 9, N. Y.

For more details circle NED-666 J1 on enclosed inquiry slip

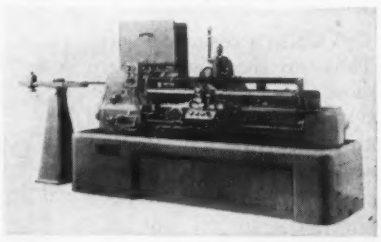
HAND CHAIN HOISTS
½ to 12-ton rated capacities



Spiroil gear transmission for maximum power and load control is incorporated in the CB Series of aluminum Porta-Hoist hand chain hoists. All moving parts of the compact, portable units are made from high strength steel. The aluminum housing can be removed with hand tools. A Weston brake assures full load control at all times. Eleven models are offered with rated capacities from ½ to 12 tons. • **Duff-Norton Co.**, Coffing Hoist Div., 4 Gateway Center, Pittsburgh 22, Pa.

For more details circle NED-667 J1 on enclosed inquiry slip

SHAFT TURNING MACHINE
centerless type for 40-in. lengths

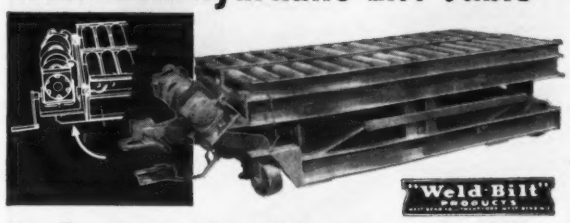


Tracer turning employed in the Trace-O-Matic centerless shaft turning machine utilizes a rotating bar stock support that is adjacent to, and travels with, the turning tool. The bar stock collet support is close to the turning tool throughout the entire turning operation, eliminating need for a tailstock center. Rotating collet, tool and template follower assembly, and template back-up roller are contained in one casting mounted on the carriage. High surface speeds and feeds and fine finishes are obtained when machining up to 40 in. bar stocks lengths in one pass. Two or more short parts can be produced in one pass from duplicate or dissimilar templates placed end to end. Machine is almost fully automatic in operation. • **Taber Instrument Corp.**, 111 Goundry St., North Tonawanda, N. Y.

For more details circle NED-668 J1 on enclosed inquiry slip

New Dual Purpose

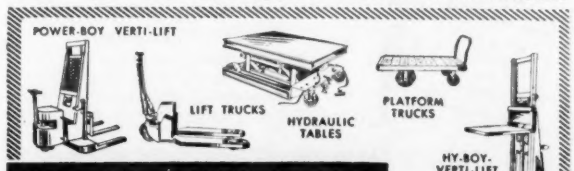
Weld-Bilt Hydraulic Lift Table



Handles Heavy Dies, Sheet Metal Easily, Swiftly!

Equipped with a roller conveyor top and hand winch, this heavy-duty Weld-Bilt Hydraulic Lift Table is designed as a *double-duty* unit. With the winch in position, it simplifies moving heavy dies onto and off of your presses. Then the winch can be swung down out of the way and the lift table used to feed heavy sheet steel for press operation. Wheels and casters permit easy positioning. The foot pedal control is an electric switch for powered raising or lowering table for press-height feeding. Various top dimensions available in capacities up to 30,000 lbs.

Call on Weld-Bilt engineers for assistance, suggestions and cost estimates for your heavy-duty lifting jobs. Or write for bulletin No. HT358.



WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

For more details circle NED-669 J1 on enclosed inquiry slip

M&M AIR FLUFF PAPER SHREDDER

A valuable machine, to you, for the speedy, safe, efficient disposition of blueprints, letters, confidential records. The M & M Air Fluff Paper Shredder is also a money saver to those companies that use quantities of paper excelsior—by converting waste paper into valuable excelsior. Adjustable cuts of ⅛", 3/16", ¼", or ⅜" widths. Models range in productive capacities from 200 to 2500 pounds per hour. Write for descriptive folder.

MITTS & MERRILL
1000 SO. WATER ST. • SAGINAW, MICHIGAN

For more details circle NED-670 J1 on enclosed inquiry slip

U.S. Flex at WORK!

Photo of the Atomic Sub U.S.S. TRITON courtesy of United States Navy and General Dynamics Corp.

but Specifications Classified!

A tough Navy job! The assignment: meet the exacting and rigid requirements for auxiliary steam lines in an A-Sub! *U.S. Flexweld Hose did it!*
This same U.S. Flexweld Hose serves you and other industries day-after-day in commercial use *at no premium for exceeding your specifications.*

Write us today about your tough problems. Give our engineers all the facts.

U. S. FLEXIBLE TUBING CO.
215 MAIN STREET, BARTLETT, ILLINOIS

For more details circle NED-671 J1 on enclosed inquiry slip

HANDY
EASY-TO-CARRY
ALWAYS
READY TO USE
LEAKPROOF

ELLISCO
BRUSH TOP
CANS

D STYLE
High quality bristle brush soldered in cap. Ring or detachable wood handle. Capacities: 3 oz. to 1 qt.

HO STYLE
Inexpensive. Applicator brush is riveted in screw cap. Capacities: 3 oz. to 1 qt.

These convenient, economical cans are ideally suited for applying small quantities of paints, shellac, pipe "dope", adhesives, red lead, layout blue and your own products. Use them to:

- STOP WASTE. Brush size is ideal for applying a small amount of liquid. Brush and contents won't dry out.
- SAVE TIME. Brush fastened to can lid makes application easy.
- SAVE MONEY. Buy materials in bulk and use as needed.

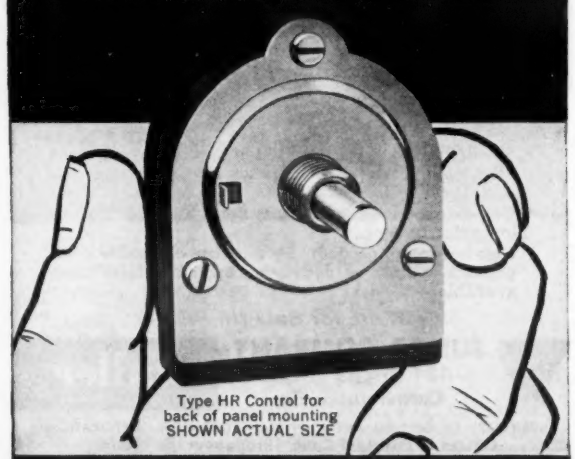
Write, wire or call for more details and prices

Ellisco Inc.
American & Luzerne Streets,
Dept. G-5, Philadelphia 40, Pa.
BAldwin 3-3405

For more details circle NED-672 J1 on enclosed inquiry slip

HEAVY DUTY
Industrial Potentiometers
Provide
Velvet Smooth Control

A-B QUALITY

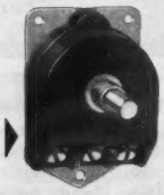


Type H Potentiometers
5 Watts at 40°C 3 Watts at 70°C
750 VOLTS MAX

Here's a potentiometer, ruggedly built, designed for superior performance and reliability in industrial control and commercial electronic equipment. The solid resistance element and movable contact brush—made by A-B's *exclusive* hot molding process—assure velvet smooth, noiseless control, which improves with an operating life in excess of 100,000 cycles. Large clearances and high insulation resistance permit its use at voltages up to 750 volts. For full details, send for Technical Bulletin 5204.

Type HR Control for mounting in Bulletin 800T oiltight housing.

Type HF Control supplied with metal plate for front of panel mounting.

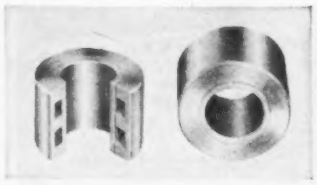


Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
QUALITY MOTOR CONTROL
QUALITY ELECTRONIC COMPONENTS

For more details circle NED-673 J1 on enclosed inquiry slip

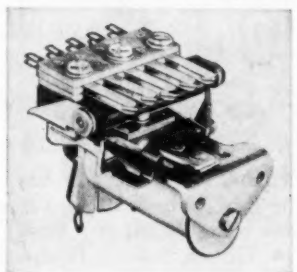
BEARING BUSHINGS
have built-in oil reservoir



Self - lubrication over long periods of operation is assured by the oil reservoir built into Neverlube bearing bushings designed for use in machinery, appliances, and machine tools. Reservoir consists of internal grooves machined in the steel outer sleeve or cartridge and filled with a special oil during assembly of the sintered bronze bushing. Capillary action of oil through the bushing assures a continuous oil film between the bearing bore and shaft. Initial bore sizes available range from 1/8 through 1 3/8 in. Special sizes in a wide range of load capacities can be made. • Carter Mfg. Co., Ferrysburg, Mich.

For more details circle NED-674 J1 on enclosed inquiry slip

PROGRAM RELAY
with 5-pole, 12-position switch



Coil ratings from 6 to 220 v ac are available in Series 1450 program relay, suitable for sequential control of computers, machine tools, or remote television circuits. Its 5-pole, 12-position switch operates quietly under severe environmental conditions. Switching is programmed by orienting cams on a shaft. Relay requires only 0.05 w-sec for pulse operation, or 2 w for conventional actuation. Contacts of palladium, silver, or gold are rated to 7.5 v ac. Standard model operates at 85° C, although special models for 600° F are available. The 4 1/2-oz unit is supplied open, with a dust cover, or hermetically sealed. • **Federal Pacific Electric Co.**, Cornell-Dubilier Electronics Div., 118 E. Jones St., Fuquay Springs, N. C.

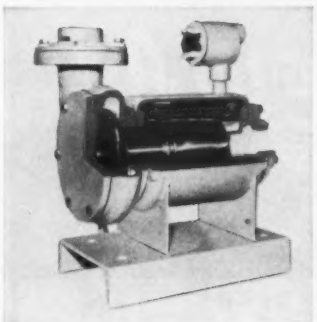
For more details circle NED-675 J1 on enclosed inquiry slip

SECRETARIAL CHAIR
split seat contributes to comfort

Each of the two individual sections of the self-aligning Adjust-A-Matic secretary's chair seat is mounted on a flexible universal joint. The two equal halves respond to the weight and movement of each half of the body, thereby contributing to balance, support, and motion in correct seating. Seat is constructed so that body weight is borne by the "seat bones" and not by soft body tissue. • **Sperry Rand Corp.**, Remington Rand Systems Div., 122 E. 42nd St., New York 17, N. Y.

For more details circle NED-676 J1 on enclosed inquiry slip

HIGH CAPACITY CANNED PUMP
handles temperatures up to 500° F



Only moving part of this canned pump is the rotor - impeller which is directly driven magnetically like an electric motor. Stator windings that carry the electrical currents causing it to spin are outside the sleeve which retains the pumped liquid in a closed system. Pump is suited for applications where corrosion is severe, space is limited, leakage would be dangerous, or where process fluids must not be contaminated by lubricants or packing. It handles salt water, solvents, hydrocarbons, coolants, chemicals, and radioactive fluids and is made in 1, 2, and 3-hp ratings cast iron or Type 316 stainless steel. Pump is designed for temperatures up to 500° F, and delivers up to 100 gpm at heads up to 92 ft. Piping need not be disturbed for cleaning or bearing replacement. • **Corley Co.**, 685 Myrtle Ave., Boonton, N. J.

For more details circle NED-677 J1 on enclosed inquiry slip

SPECIAL TOOLS FOR SPECIAL JOBS 4

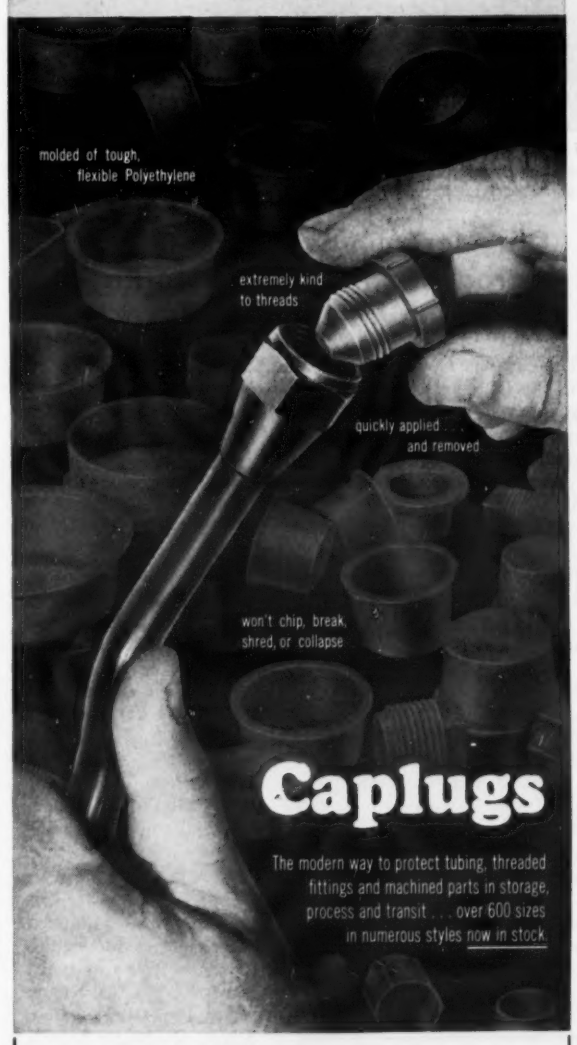
PRECISION-MADE
BRITE-STEEL WASHERS FOR
EXACTING REQUIREMENTS

- Perfectly flat and clean, with precision-centered holes.
- Available as SAE standard, veri-thin, and beveled edge types; U.S. standard type.
- For bolt sizes from 1/8 to 1 in.
- Packed in 1 and 5-lb. boxes, in bulk or as #55 assortment containing 1/2 lb. each of six popular sizes in SAE standard type.

K-D TOOLS
Making hard jobs easy since 1919
K-D MANUFACTURING COMPANY
Lancaster, Pa.

For more details circle NED-678 J1 on enclosed inquiry slip

this FREE sample KIT
is filled with product protection ideas for you



Caplugs
The modern way to protect tubing, threaded fittings and machined parts in storage, process and transit . . . over 600 sizes in numerous styles now in stock.

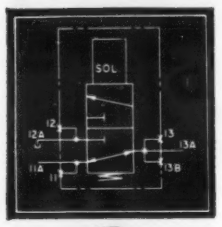
CAPLUGS DIVISION, PROTECTIVE CLOSURES CO., INC.
2209 Elmwood Ave., Buffalo 23, N. Y.
MAIL a free assortment of Caplugs, literature and prices to us, without obligation.
Name
Title
Firm
Address
City Zone State

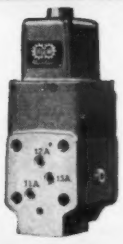
For more details circle NED-679 J1 on enclosed inquiry slip

...Fluid Power news

Oilgear Solenoid Operated Pilot (Directional) Valve Bulletin

3/8" Two-Way & Three-Way Plungers For 3000 psi Duty





- Three Body Styles—choice of: panel, bracket, or "operator" mounted valves—port connections, plungers, and adjustable return flow control.
- Enclosed, sealed solenoids—A.C. operation, spring-returned. Push-type stem permits manual operation for set-up or trouble-shooting.
- Large areas for maximum circuit efficiency • Heavy, close-grained, high-tensile alloy iron bodies • Precision-bored plunger holes • Hardened and precision-ground alloy steel plungers • Controlled, precision manufacture throughout for optimum performance and life. • *For complete data, diagrams, operation . . . request Oilgear Bulletin 80125.*

THE OILGEAR COMPANY
Application-Engineered Fluid Power Systems
1582 WEST PIERCE STREET • MILWAUKEE 4, WISCONSIN

For more details circle NED-680 J1 on enclosed inquiry slip

Paul McVicker, right, points out to Jerry Cracchiolo, both of Chrysler, the high quality and contrast of a xerographic print made by a Copyflo® 24 continuous printer from a microfilmed copy of original drawing.

Chrysler speeds missile-drawing reproduction through xerography and unitized microfilm

The Chrysler Corporation Missile Division, prime contractor for the U.S. Army-developed Redstone and Jupiter ballistic-missile systems, is using a highly developed unitized microfilm system to speed the reproduction of thousands of *different* engineering drawings daily.

In a unitized microfilm system, original drawings are microfilmed and the individual microfilm frames mounted in die-cut apertures of data-processing cards. From the cards, dry, positive prints ready for immediate use can be turned out automatically by xerography on a Copyflo 24 continuous printer. The cards are maintained in a compact, readily accessible file.

At Chrysler, more than 3½ million drawings have been microfilmed and mounted!

The Copyflo 24 continuous printer operates on the electrostatic principles of xerography, and at a reproduction speed of 20 linear feet a minute. It enlarges microfilm frames to a maximum width of 24 inches on *ordinary paper*. The quality of reproduction is superb.

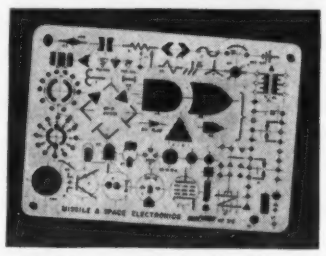
Chrysler's unitized microfilm system has achieved great economies in time, money, space, and materials. Working files, for instance, has been reduced as much as 95%, since aperture cards occupy only a fraction of the space needed for original drawings or conventional reproducibles.

You needn't have reproduction volume like Chrysler's to attain proportionate savings. You can set up your own unitized microfilm system on a modest scale that can provide significant savings. Why not let us show you how you can speed paperwork duplicating and save money? Write to XEROX CORPORATION (formerly Haloid Xerox Inc.), 61-212X Haloid Street, Rochester 3, New York. Branch offices in principal U.S. and Canadian cities. OVERSEAS: Rank-Xerox Ltd.

XEROX CORPORATION

For more details circle NED-681 J1 on enclosed inquiry slip

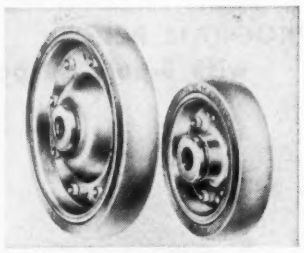
DRAWING TEMPLATE has space hardware circuit symbols



Symbol cutouts provided by the No. 316 missile and space electronics template conform to MIL-STD 70327 for drawing of electronic circuits of military space hardware. The 7 x 5-in. template is made of 0.030-in. matte finished mathematical quality plastic, and cutouts are milled for accuracy. Price is $4.50. • **Rapidesign, Inc.**, Box 429, Burbank, Calif.

For more details circle NED-682 J1 on enclosed inquiry slip

STEEL DISC WHEELS have replaceable polyurethane tires



Low coefficient of friction polyurethane used in the replaceable tires of Series 124 steel disc wheels rolls easily under heavy or bulky loads. The 6 and 8-in. clincher type tires are designed for existing and OEM wheeled equipment required to roll easily and resist corrosive elements. The 6 in. size has a load capacity of 500 lb; the 8-in. size, a 700-lb capacity. Both have Torrington roller bearings. Steel discs are cadmium plated. • **United Service Equipment Co.**, Jarvis & Jarvis Div., Scudder Avenue, Palmer, Mass.

For more details circle NED-683 J1 on enclosed inquiry slip

PORTABLE DICTATION UNIT powered by flashlight batteries

The 6¼-lb Executary portable dictation unit records 14 min of dictation on the same Magnabelt as used in the larger and compatible IBM office dictation units. Belt can be used repeatedly, stored, folded, or mailed in a business-size envelope. A supply is stored in the machine. A small microphone is used for individual or conference recording; playback is heard through the microphone or conference speaker. The 2½ x 6½ x 10⅛-in. transistorized unit is powered by five C-size flashlight batteries. An indicator shows when batteries need replacement. Price is $385. • **International Business Machines Corp.**, Electric Typewriter Div., 545 Madison Ave., New York 22, N. Y.

For more details circle NED-684 J1 on enclosed inquiry slip

1 man does the job of 3

BRITEWAY
CLEANER-SANITIZER
...cleans
disinfects
deodorizes

Cuts your labor costs by 50%
In the same operation, Briteway removes dirt, kills bacteria, banishes offensive odors... Takes only one cup to pail of water to make abundant suds...Works in hard water... Leaves refreshing aroma (no "disinfectant" smell)...Applied with mop on floors; sponge, cloth or brush on toilet seats, tile, walls... Priced below competing products which do not compare...For information write Dolge.

IN 1 STEP

For free sanitary survey of your premises ask your Dolge service man

expandable DOLGE
WESTPORT, CONNECTICUT

For more details circle NED-685 J1 on enclosed inquiry slip

NO VIBRATION-NO CHATTER

With these low-cost multipurpose regulators

FISHER Series 67
LOW VOLUME REGULATORS

Here's a small valve that does a big job. It's particularly suitable as an auxiliary operating pressure regulator for air or gas service. Five spring ranges are available, 5 to 20 — 5 to 35 — 30 to 60 — 55 to 100 psi. Series 67 is also available with brass body for small volume water service. **Write for Bulletin C-67C.**

IF IT FLOWS THROUGH PIPE ANYWHERE IN THE WORLD... CHANCES ARE IT'S CONTROLLED BY...

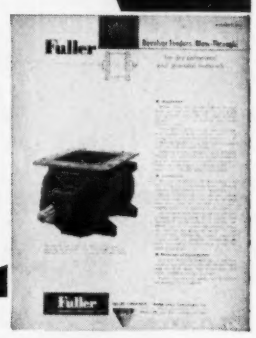
FISHER GOVERNOR COMPANY
Marshalltown, Iowa / Woodstock, Ontario / Rochester, England

FISHER Controls

For more details circle NED-686 J1 on enclosed inquiry slip

New Bulletin

FULLER REVOLVER FEEDERS
(Blow-through type)



- For delivering dry pulverized and granular materials into high-pressure pneumatic conveying systems with small diameter lines.
- Can be used with pressure systems of either high or low velocity type.
- Less headroom needed. Permits use of smaller components in rest of conveying system. Nine sizes available.

3087
F-27

Write for Bulletin F-9

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller
pioneers in harnessing Air

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World

For more details circle NED-687 J1 on enclosed inquiry slip

More than 10,000 in use:

For quick, precise measuring of nonmagnetic thicknesses

Elcometer Thickness Gauge measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics and other nonmagnetic coatings—*with a guaranteed ± 5% ± .0001" accuracy.* Handy pocket-size, it gauges flat or curved surfaces and hard-to-get-at spots easily. Needle-locking button assures correct reading every time. Now available in *fifteen* double-scale models, with contact spheres, "V" block, or flat bases.

Complete with tough leather case, inner pocket for test strips, and carrying harness. Weighs only 6 oz.

ONLY $83.75 F.O.B. CLEVELAND

Write for free Illustrated Folder

FERRO

FERRO CORPORATION
4150 East 56th St., Cleveland 5, Ohio

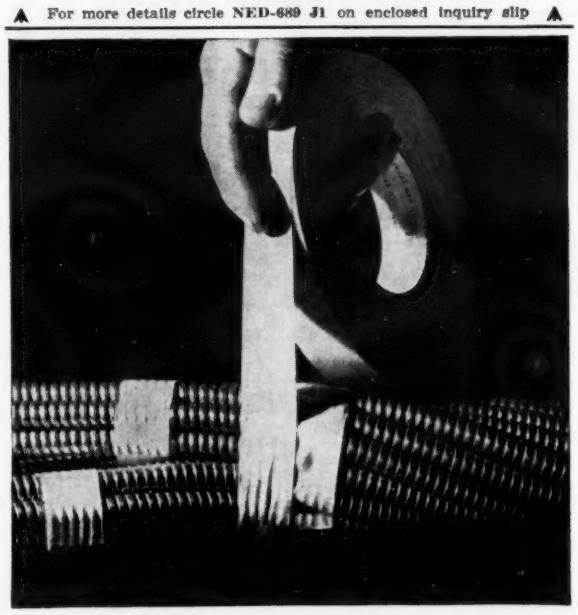
For more details circle NED-688 J1 on enclosed inquiry slip

A BETTER ROPE IN YOUR PLANT!

Regardless of what you do with rope, you'll do it better, more safely with the right kind of rope from PURITAN CORDAGE MILLS!

For example, PURITAN BRAIDED NYLON CORD answers many industrial needs; has greater tensile strength and a higher degree of elasticity than any other commonly used textile fiber, absorbs shock, resists abrasion and wear, withstands mildew and bacteria, yet remains soft and supple. Choose the right type of rope to meet your specific need. Write for full details. **PURITAN CORDAGE MILLS, Inc., 1205 E. Washington St., Louisville, Ky.**

▲ For more details circle **NED-689 J1** on enclosed inquiry slip ▲



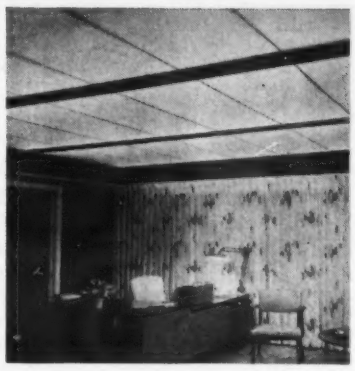
PERMACEL Cloth Tapes are made in a variety of strengths, thicknesses and backings for every type of sealing, holding and protecting.

PERMACEL® NEW BRUNSWICK NEW JERSEY

Tapes • Electrical Insulating Materials • Adhesives

▲ For more details circle **NED-690 J1** on enclosed inquiry slip ▲

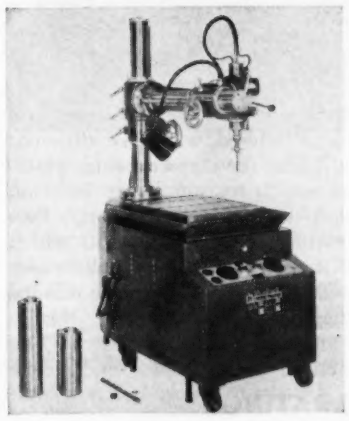
ILLUMINATED CEILING
easily installed in existing rooms



Good lighting as well as hiding of new or old ceilings are afforded by Electralume - Inverta illuminated ceiling. Composed of standard parts, system is ordered to a floating size or to suit a room and includes instruction layout plans. It can be erected by semi-skilled help, and can be dismantled and re-used. The 2 x 4-ft Circlgrid panels are easily cleaned with mild detergent. Cost including lights, wiring, and components is $3.36 per sq ft in an average installation of 238 sq ft. Rapid-Start fluorescent strip lights 30 or 54 in. apart result in light levels of 70 and 40 ft-c, respectively. • **Wilson Research Co.,** J. A. Wilson Lighting Div., Box 5037, Erie, Pa.

▲ For more details circle **NED-692 J1** on enclosed inquiry slip ▲

METAL DISINTEGRATOR
cuts hard and soft metals, drills holes, extracts drills and studs



Vertical mast, horizontal ram, and cutting head of the C-86 metal disintegrator can be set up through 360 degrees. It cuts hard and soft metals, tools, and dies, and will arc drill shaped holes in hardened steels, titanium, Inconel, and other difficult-to-machine metals. Machine will also remove taps and studs in sizes from No. 00 up, and extracts drills and reamers from 0.012-in. upward. The T-slotted table has an integral coolant return. Coolant tank, screen, and permanent magnet filter are housed in the cabinet which is capable of supporting a 5000-lb load.

Vertical and horizontal column extensions (shown at left) are offered in 12 and 18-in. lengths. The horizontal ram and cutting head can operate on or off the table, at any compound angle. Many types of electrodes of varying shapes and materials can be used without annealing or distorting the workpiece. Input power is 220 or 440 v, 50-60 cycles, single-phase ac. • **Cammann Mfg. Co.,** 2700 Henninger Rd., Cleveland 9, Ohio.

▲ For more details circle **NED-693 J1** on enclosed inquiry slip ▲

New from AO Rescue Breathing Equipment That Can Help Save A Life WHEN SECONDS COUNT

Here's a portable kit, containing a suction pump and resuscitator, that's ready *to go to work fast* in an emergency. This AMBU* Rescue Breathing Equipment can be used anywhere, requires no electrical or other connections. Foot-operated suction pump clears throat and mouth if airway is clogged. Resuscitator starts airflow with the first squeeze of the bag, delivers up to 700 cc. into the lungs. It is an ideal supplement to mouth-to-mouth breathing, can be operated by one person.

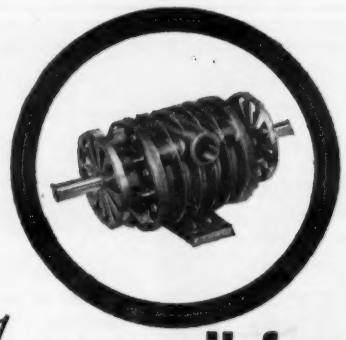
*TM

Your Surest Protection . . . AO SURE-GUARD Products

American Optical COMPANY
SAFETY PRODUCTS DIVISION
Southbridge, Massachusetts

Safety Service Centers in Principal Cities

▲ For more details circle **NED-695 J1** on enclosed inquiry slip ▲



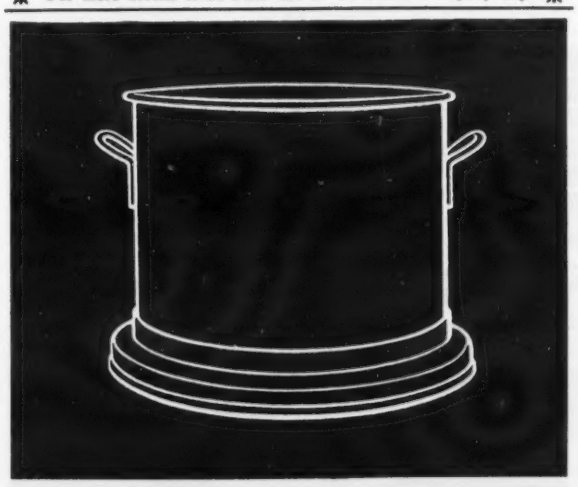
20% more oil-free air

The all-new M-D DRY AIR pumps deliver 20% more air flow than previous models. Seven models deliver guaranteed oil-free dry air in constant flow from 1 to 40 CFM and provide vacuums to 25" HG or pressures up to 35 PSIG.

Aircraft quality tolerances
Factory tested • No oiling • No greasing
7 Gas-Tight Models Also Available

Write for free literature
M-D BLOWERS, Inc., RACINE, WIS.
A subsidiary of Miehle-Goss-Dexter, Inc.

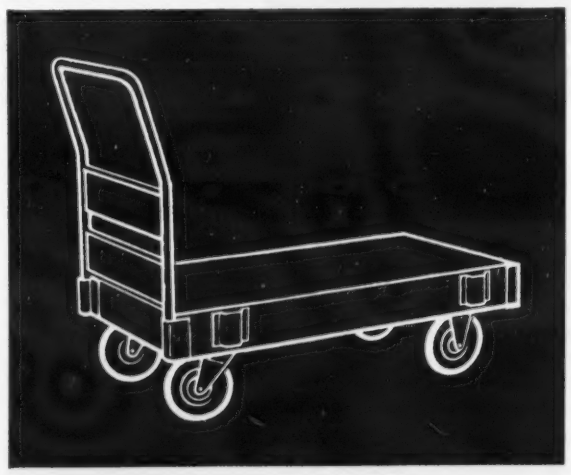
▲ For more details circle **NED-696 J1** on enclosed inquiry slip ▲



Let wear·ever store it

These Wear-Ever containers stack to save space. Or, covers are available. Extra-tough aluminum alloy won't rust, resists denting. Beaded rims protect workers' hands. Choose from Wear-Ever's wide selection of sizes: 2½-, 4-, 6-, 9- and 14-gallon capacity. Count on lightweight Wear-Ever aluminum containers to stand up to a long life of hard use—save yourself replacement costs. Send reply card for full details; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate delivery from stock. A-5440-2

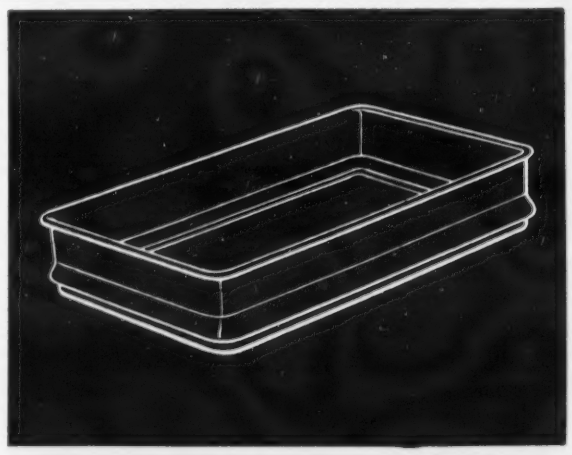
▲ For more details circle **NED-691 J1** on enclosed inquiry slip ▲



Let wear·ever move it

Even the women in your plant can handle lightweight Wear-Ever aluminum trucks. This newest addition goes like lightning, yet stands up to long, hard use. One-eighth-inch thick, heavy-duty aluminum base. Eight-inch diameter rubber-tired casters roll smoothly over uneven floors. Special panels (two sides, one end) turn 47" x 23" flat bed truck into a panel truck. Send reply card for full details on this and other Wear-Ever trucks; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate delivery. A-5440-3

▲ For more details circle **NED-694 J1** on enclosed inquiry slip ▲



Let wear·ever keep it handy

Small parts can be expensive. That's why Wear-Ever's rectangular pans and transport boxes are all drawn seamless from one sheet of extra-tough, dent-resistant aluminum alloy. No seams to catch tiny parts or dirt. Easy-to-clean rounded corners, sanitary open bead. Send reply card for full details; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Count on immediate shipment from stock. A-5440-4

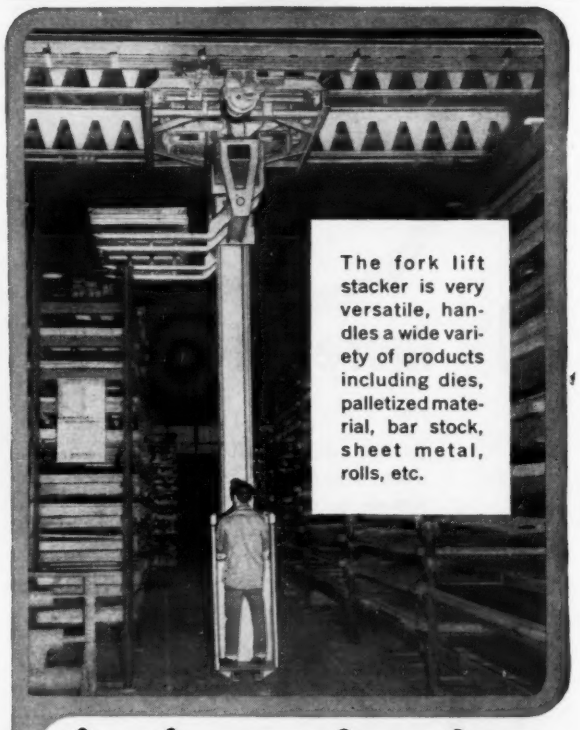
▲ For more details circle **NED-697 J1** on enclosed inquiry slip ▲

Safety Knives

Hyde Safety Knives help protect your workers' fingers from nasty cuts and loss of time on the job. Safety guards are available on the popular Square Point Knives and heavy duty butcher type knives. Write for descriptive catalog.

HYDE HYDE MANUFACTURING CO.
SOUTHBRIDGE, MASS., U.S.A.

For more details circle NED-698 J1 on enclosed inquiry slip



Cut Costs...Save Space

Louden stacks higher with safety

Operational in the narrowest aisles, Louden Stackers conserve floor space making possible maximum utilization of storage area. And, they provide selective storage for a variety of materials so that each is immediately available.

An important design feature insures safe operation of Louden Stackers at all times. As a load approaches the upper limit, it is closest to the frame from which it is suspended. Thus, where the stacking height becomes hazardous for conventional floor operated equipment, the entire Louden Stacker assembly is at its most stable condition.

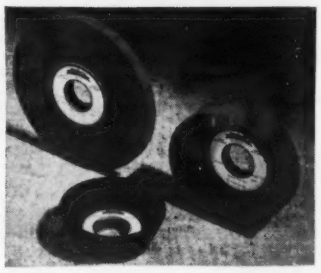
When you have material handling requirements, call on Louden, the pioneer of overhead handling. Benefit by Louden's unequaled experience and broad array of service-proven equipment. Most Louden installations pay for themselves in months; some have done so in a matter of weeks.

Write today for PHOTO REPORT NO. 108 . . . a variety of examples of Louden Stackers at work.

Louden MONORAIL & CRANES
THE LOUDEN MACHINERY COMPANY
912 Court, Fairfield, Iowa
A Subsidiary of Mechanical Handling Systems Inc.
Plants in Fairfield, Iowa and Clark, New Jersey
SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

For more details circle NED-699 J1 on enclosed inquiry slip

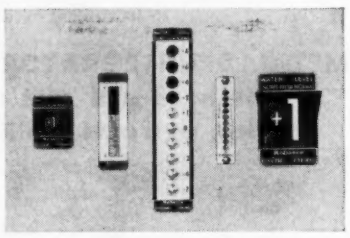
GRINDING WHEELS in straight, cup, and dish shapes



High performance in grinding the hardest tool steels, including abrasion resistant types, is delivered by RA Borolon grinding wheels made of a fused crystalline aluminum oxide with V8 glass-type vitrified bond. Grain has a ruby red color and combines both friability and toughness. Firing technique enables grade of hardness to be formulated with predictable accuracy. Maximum uniformity and cool cutting are characteristic of these wheels made in straight, dish, straight cup, and flaring cup styles as well as abrasive segments. • **Simonds Abrasive Co.**, Tacony & Fraley Streets, Philadelphia 37, Pa.

For more details circle NED-700 J1 on enclosed inquiry slip

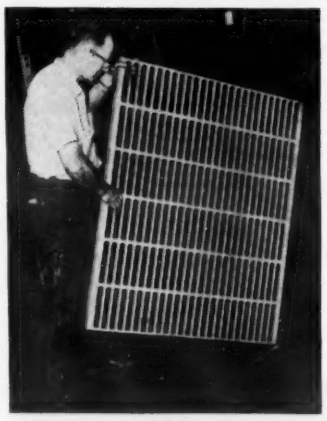
REMOTE WATER GAGE offered with five indicators



Water level is remotely indicated by electrodes in a direct-to-drum water column of the Electro-Eye-Hye remote indicating system. Designed for service up to 3000 psi steam and 5000 psi cold, it uses electrical connections between water column and panel indicators. Gage is offered with five different indicators (see photo). Three are standard and miniature ten-light indicators which register liquid level on a column of lights with 180-degree visibility. Two are miniature and subminiature digital readouts which project the liquid level in inches above or below normal on a self-contained screen. • **Reliance Gauge Column Co.**, 5902 Carnegie Ave., Cleveland 3, Ohio.

For more details circle NED-701 J1 on enclosed inquiry slip

DUCTILE IRON GRATINGS for heavy trucking, traffic areas



Ductile iron floor gratings for drainage or floor reinforcement uses in factory driveways, loading platforms, and other heavy trucking areas are produced in various designs to fit customer needs. Gratings can carry exceptionally high loads and are about 50 per cent lighter than conventional gray iron units. They have large openings and stand up well under reasonable acid conditions. • **Crompton & Knowles Corp.**, 93 Grand St., Worcester 10, Mass.

For more details circle NED-702 J1 on enclosed inquiry slip

INSECTICIDE FOG DISPENSER produces 2000 cu ft in 30 sec

Flies, mosquitoes, and other insects are killed upon contact with the dense insecticide fog delivered by the portable electric BVI Insect Fogger. Insect-repelling effects of the dense fog treatment remain for hours, but fogged areas can be occupied immediately. Device is used on plant grounds, storage yards, parking lots, and other areas to dispense insecticide particles averaging 15 microns in size. A built-in electric pump forces the liquid through an atomizing nozzle, then into a heated fog-producing chamber. About 2000 cu ft of fog is produced in 30 sec from 1 oz of insecticide. The 115-v, 60-cycle ac unit also applies water-base weed killers, fungicides, pesticides, bug exterminators, and residual sprays. Price is $39.95. • **Burgess Vibrocrafters, Inc.**, Commercial Products Div., Grayslake, Ill.

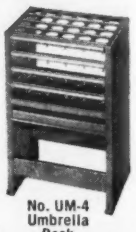
For more details circle NED-703 J1 on enclosed inquiry slip

The OFFICE VALET® Lockerette

Combines the best features of both lockers and coat racks.

Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects. Improves health and morale—lower absenteeism.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 feet; the No. 9-18 (illustrated) accommodates 18 in 9 feet.



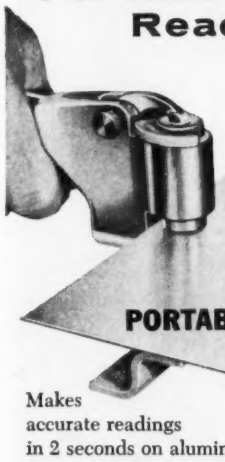
No. UM-4 Umbrella Rack

WRITE FOR BULLETIN LO-8

VOGEL-PETERSON CO. Rt. 83 & Madison St. Elmhurst, Illinois

For more details circle NED-704 J1 on enclosed inquiry slip

For *FAST* Hardness Readings!

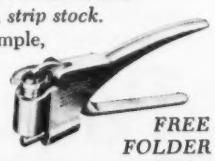


TAKE THE TESTER TO THE WORK instead of the work to the Tester

Webster

PORTABLE HARDNESS TESTERS *for non-ferrous metals*

Makes accurate readings in 2 seconds on aluminum, brass, copper, etc. Dial readings positively identify tempers of all materials within instrument range. Readings can be correlated to standard hardness scales. Cylindrical anvil tests all shapes: *sheets, tubes, extrusions, strip stock.* Capacity—¼". Hand operation. Simple, rugged design in several models for various materials. Ask for data and recommendations.



FREE FOLDER write for your copy.

WEBSTER INSTRUMENT, INC.
11856 Mississippi Avenue, Los Angeles 25, California
Dept. N.

For more details circle NED-705 J1 on enclosed inquiry slip

CUT YOUR LABELING COSTS more than 30%

POTDEVIN Label Paster

Time savings of 30% and more with unskilled operators makes your POTDEVIN Label Paster quickly pay for itself. No adjustments required for varied shaped labels. Accurate control of adhesive minimizes waste and assures clean, neat labeling.

Available in 6", 8½", 12" and 18" widths.

ESTABLISHED IN 1893 POTDEVIN

POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.
Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

For more details circle NED-706 J1 on enclosed inquiry slip

CUT TIME! CUT COSTS!

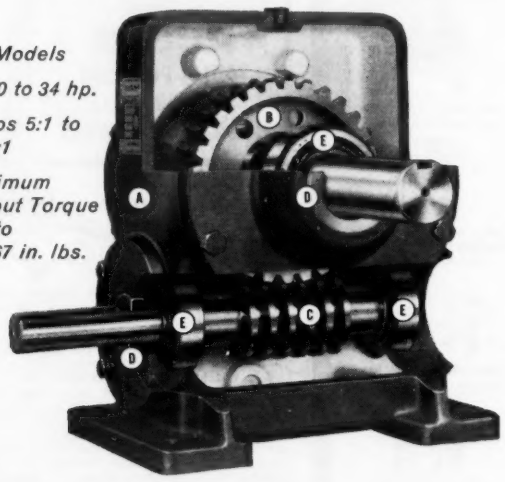
CUT ALMOST ANYTHING IN SECONDS!

▲ For more details circle NED-707 J1 on enclosed inquiry slip ▲

Winsmith "C" series

worm gear speed reducers

- *108 Models*
- *1/100 to 34 hp.*
- *Ratios 5:1 to 4460:1*
- *Maximum Output Torque 142 to 34,767 in. lbs.*



A. Cast Iron Housing—for high heat radiation, maximum strength and rigidity.

B. Special Bronze Worm Gears—for high strength and cooler, more efficient operation.

C. Case Hardened Steel Worms—cut integral with the shaft. Meet AGMA long-wear specifications.

D. Positive Oil Seals—keep oil in, dirt out. Shafts lapped for longer seal life.

E. Tapered Roller Bearings—for minimum maintenance, long bearing life, permanent shaft alignment.

Winsmith "C" Series reducers are compact units which offer a wide range of horsepower and torque in minimum space. They are available in single and double reduction models, for intermittent or continuous service. They can be ordered from stock with right-angle or parallel shafts, worm top or bottom, all worm gear or combined worm and helical. All types of special units are also available.

Winsmith Speed Reducers feature high shock load resistance, maximum thermal capacity without induced cooling, and greater overhung load capacity. These features add up to smooth, trouble-free performance—an extremely low rate of wear—high mechanical efficiency—and greater overall economy per horsepower dollar.

For complete information on Winsmith Speed Reducers, write today or call your nearest Winsmith Representative. You'll find one in every major industrial area, listed in the Yellow Pages. For both standard and special power transmission applications, you'll find it pays to standardize on Winsmith.

WINSMITH SPEED REDUCERS ®

MEMBER OF AGMA

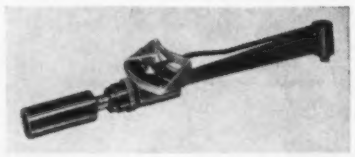
WINSMITH, INC.

216 Eaton St., Springville, (Erie County), N. Y.

• *Winsmith Speed Reducers are made by American craftsmen to meet American standards.*

▲ For more details circle NED-708 J1 on enclosed inquiry slip ▲

TORQUE WRENCHES
four models cover broad range



Direct-reading combination scales calibrated in both pound-inches and pound-feet are incorporated in this line of four torque wrenches. Deflecting beam principle is used for precision torquing of nuts, bolts, cap screws, and other parts requiring rotary force. An adjustable collar presets the desired torque and an audible signal and "feel impulse" are simultaneously produced when the preset point is reached. Tools can be used clockwise or counter-clockwise. Models have capacities of 0-300, 0-900, 0-2175, and 0-5000 lb-in. and 0-25, 0-75, 0-180, and 0-420 lb-ft. • **B. K. Sweeney Mfg. Co.**, 6300 E. 44th Ave., Denver 16, Colo.

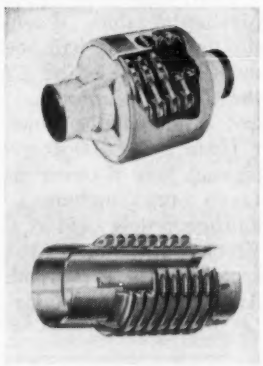
▲ For more details circle NED-709 J1 on enclosed inquiry slip ▲

PRECISION SORTER
for capsules, balls, screws, bolts

Segregation of various items according to size or shape is function of this automatic precision sorting machine. Rapid changeover from one part to another requires simple screw adjustments. It sorts or gages for thickness or diameter such products as relay contacts, capsules, steel balls, rubber plugs, cylindrical parts, screws, nuts, bolts, small die castings, buttons, and rivets. Headed objects can be sorted for head diameter. Gaging speed is up to 2000 parts per minute with a maximum error of ±0.0003 in. Parts are fed from the 2½-cu ft capacity storage hopper by a vibratory feeder onto adjustable sorting rollers with one to ten sorting stations. • **Count-O-Matic, Inc.**, 40-24 22nd St., Long Island City 1, N. Y.

▲ For more details circle NED-710 J1 on enclosed inquiry slip ▲

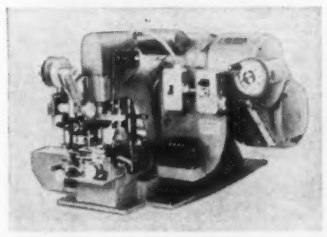
BELLOWS EXPANSION JOINT
flexible only in axial movement



Externally and internally guided models are offered in the Corruflex bellows-type expansion joint which is rigid against all movement except axial. In the internally-guided unit, guide ring welded to the inner slip rides smoothly along the machined bore of the body. When guide is external, guide surfaces of the equalizing rings move in the bore of the external guide. A joint which is both internally and externally guided can be made on request. • **Yuba Consolidated Industries, Inc.**, ADSCO Div., 20 Milburn St., Buffalo 12, N. Y.

▲ For more details circle NED-711 J1 on enclosed inquiry slip ▲

TUBE MARKING MACHINE
feeds, marks, cuts automatically



Identification and code markers for wire, cable, hose, and tubing are produced from various types of flexible plastic tubing and given a permanently impressed, centered imprint by the Model ETMA Acroleaf tube marking machine. It automatically feeds, marks, and cuts the tubing to desired length, then marks by the dry heat bond process. Markers may be used immediately. Variable speed motor drive varies production from 60 to 190 pieces per minute. Feed is adjustable for marker lengths from ⅜ to 2 in. using ⅛ to 1-in. OD tubing. Temperature is automatically controlled from 200 to 600° F for vinyl, polyethylene, and other plastics. Tube cutters have replaceable carbide cutting faces and adjustable shear pressure. A predetermining automatic counter is built in. • **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

▲ For more details circle NED-712 J1 on enclosed inquiry slip ▲

THE MOST USEFUL TOOL IN YOUR SHOP

Economy Elevating Table

- **DIE HANDLER**
- **LOAD LEVELER**
- **CONSTANT HEIGHT TABLE**
- **PORTABLE WORK TABLE**

Dimensions.....24" x 36"
Capacity.....2000 lbs.
Lift.....24" min. to 42" max.
Price: F.O.B. Chicago $245.00

Free 10 day trial in your plant with return privilege

POSITIVE PERFORMANCE
Self-locking Acme screws hold load safely, securely, at any height.

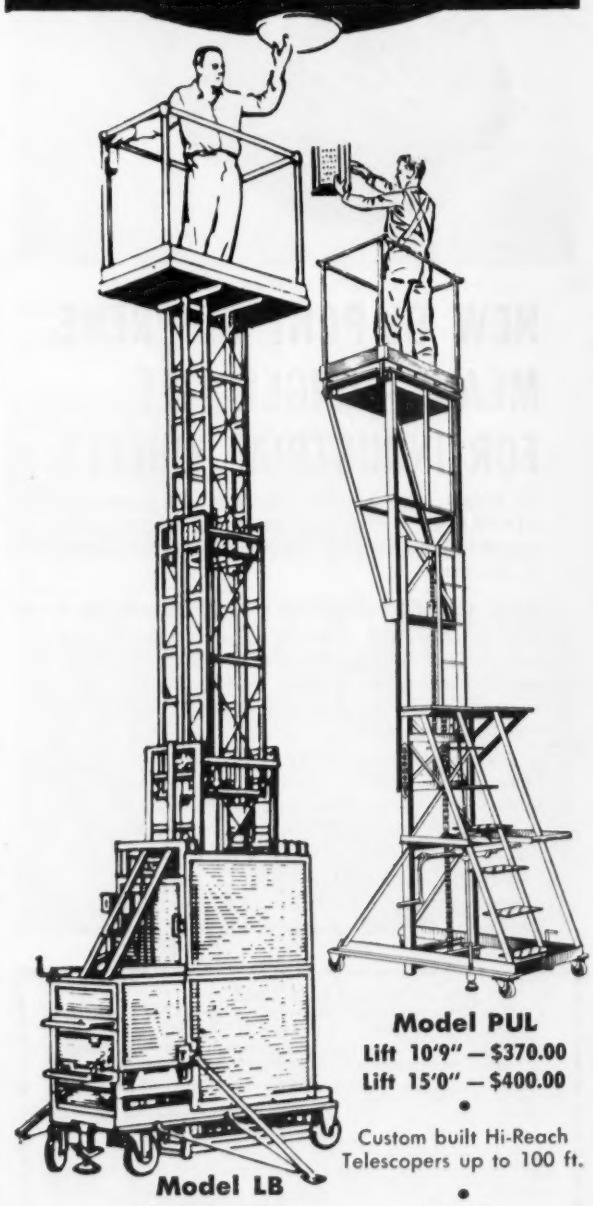
COMPACT DESIGN
No projecting parts—all four sides accessible; crank studs at both ends; three table surfaces.

ECONOMY ENGINEERING 4519 W. Lake St., Chicago 24, Ill.

▲ For more details circle NED-713 J1 on enclosed inquiry slip ▲

The man who feels safe works better on overhead maintenance

HI-REACH TELESCOPERS



Model PUL
Lift 10'9" — $370.00
Lift 15'0" — $400.00

•

Custom built Hi-Reach Telescopers up to 100 ft.

•

Write for complete catalog

Model LB
Lifts 20 ft. to 35 ft.
$1510.00 up

Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

ECONOMY ENGINEERING

4519 W. Lake St., Chicago 24, Illinois

▲ For more details circle NED-714 J1 on enclosed inquiry slip ▲

MAYLINE

WOOD PLAN FILE

Room Saving Drawer Units!

Do you need extra drawer space but are short on room? Mayline wood plan files can be readily attached to Mayline wood 4-Post tables—you get 3 extra drawer combinations at a saving of floor space.

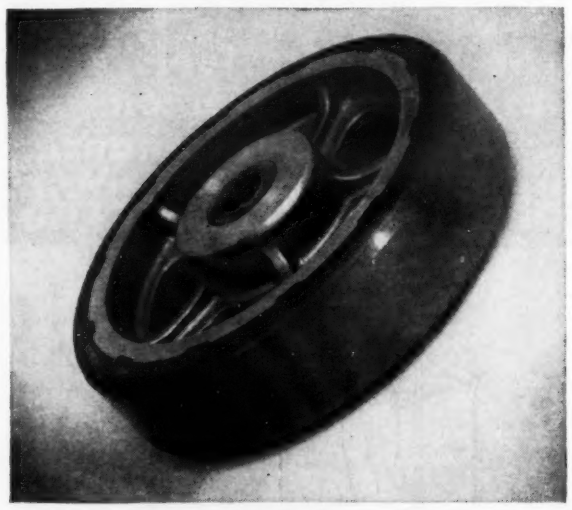
For complete information on these and other Mayline drafting furniture and equipment write for your copy of Catalog #11, or consult your local dealer.

WOOD 4-POST TABLE

MAYLINE CO., INC.
617 No. Commerce St.
Sheboygan, Wisconsin

MAYLINE

▲ For more details circle **NED-715 J1** on enclosed inquiry slip ▲



NEW DU PONT ADIPRENE® MEANS LONGER LIFE FOR INDUSTRIAL WHEELS

Du Pont synthetic rubber research now brings you ADIPRENE . . . a new urethane elastomer for longer lasting, better performing industrial wheels of all types.

NEW WHEELS OUTLAST RUBBER 5 TO 1

Wheels made from ADIPRENE carry a far heavier load than conventional rubber wheels . . . yet they are resilient, won't mark or damage floors. They resist oils, mild chemicals, weathering, aging, high and low temperatures.

Most important, ADIPRENE actually multiplies wheel life because of its outstanding resistance to wear and abuse. Four- and fivefold increases are common. In one plant, where rubber lasted only a few days, ADIPRENE wheels were in good condition after *six months!*

Send the coupon for information about industrial wheels made from this new Du Pont elastomer.

E. I. du Pont de Nemours & Co. (Inc.)
Elastomer Chemicals Department NED-9
Wilmington 98, Delaware

☐ I would like to know more about ADIPRENE industrial wheels. Please send literature and list of manufacturers.

☐ I am particularly interested in the following types of wheels _____

☐ Other information _____

Name _____

Firm _____

Address _____

City _____ State _____

DU PONT ADIPRENE® URETHANE RUBBER

Better Things for Better Living . . . through Chemistry

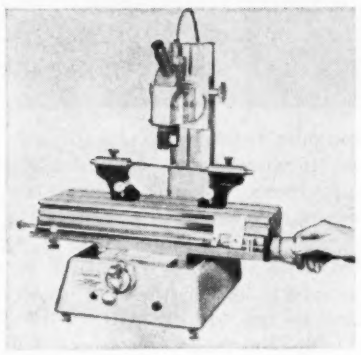
▲ For more details circle **NED-716 J1** on enclosed inquiry slip ▲

CABLE & FAULT FINDER finds embedded heat cable breaks

Compact, transistorized, battery-operated fault finder quickly and accurately locates breaks in electric heating cables embedded in finished dry wall or plastered ceilings. It consists of a transmitter signal pack and a receiver pick-up with telescoping antenna probe, each measuring 3 9/16 x 2 x 1 5/16 in., plus an earphone headset. The operator moves the antenna probe over the ceiling as shown, hearing signals in the headset. Null zones indicate location of breaks. Unit also finds plastered-over outlets, junction boxes, and wiring within walls. ● **Electric Radiant Heat, Inc.,** 1517 Wells St., Fort Wayne, Ind.

▲ For more details circle **NED-717 J1** on enclosed inquiry slip ▲

MEASUREMENT INSTRUMENT for broad range of accurate internal and external work



Difficult measurements can be made rapidly and accurately with the Linearscope, an easily used inspection instrument. Scanning, scanning and measuring simultaneously, probing hidden recesses, and checking internal or external squareness factors are among its uses. Internal dimensions between grooves, width and depth of grooves, diameters of beveled valve seats, squareness of side and ports, and size of ports can be measured.

Instrument is equipped with two 6 x 20-in. T-slotted Meehanite tables. Lower table rides on a wide V-way; the top table on ball bearings. The 4-in. lateral movement is controlled by a micrometer screw to 0.0005 in.; the 12-in. longitudinal movement, with gage blocks and a micrometer screw to within 0.0001 in.

Head turns 360 degrees and is calibrated 90 degrees on each side of center with a 5-min vernier. Bausch & Lomb optics include a 20X or 40X microscope with hairline reticle field of 0.488 or 0.240 in., respectively. Vertical illumination is built in and various accessories are offered. ● **Westwood Engineering Co.,** 2234 Purdue Ave., Los Angeles 64, Calif.

▲ For more details circle **NED-718 J1** on enclosed inquiry slip ▲

Your Materials Handling File Isn't Up-to-Date . . .

WITHOUT THIS NEW CATALOG!

Send for your FREE copy now!

SPAULDING FIBRE COMPANY, INC.
310 Wheeler Street
Tonawanda, New York

Gentlemen: Please send one copy of the new Spaulding Materials Handling catalog, free of charge.

Name _____ Title _____

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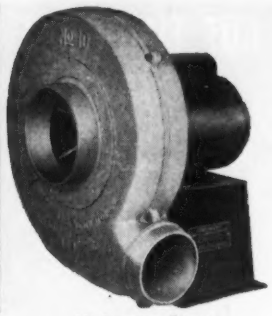
SPAULDING FIBRE COMPANY, INC.
310 Wheeler St. • Tonawanda, N. Y.

▲ For more details circle **NED-719 J1** on enclosed inquiry slip ▲

growing choice for O.E.M. uses

CINCINNATI "PB" BLOWERS



PB Pressure Blower

For exhausting, conveying, air supply, cooling, dust and mist collection . . . these compact low-cost blowers give higher efficiency than blowers costing twice as much. Dependable service and prompt delivery are other reasons **Cincinnati** Pressure Blowers are installed on more and more equipment.

Name-brand flange-type motor is attached direct to cast aluminum housing (can be used with or without pedestal)—a big space and labor saver! Superior **Cincinnati** design includes spark-proof aluminum housing and (self cleaning) wheels for lighter weight, three-position installation, including flush mounting for compactness.

LM Volume Blower

Large stock, prompt shipment saves you inventory! Honestly rated from 350 to 1420 cfm., up to 8" s.p. with ⅓, ½, 1 and 2 h.p. motors. Also custom designs for specific needs.

Some good territories available for representatives.

Write for complete blower information

CINCINNATI FAN and VENTILATOR CO.
3554 Montgomery Rd. Cincinnati 7, Ohio

▲ For more details circle **NED-720 J1** on enclosed inquiry slip ▲

Stack-Or-Lift Palletized Loads.

Load Trucks and Lay Pipe with Convertible Mast.

Mate Dies and Repair Machine Tools.

Store Supplies and Finished Products.

Lift and Tilt Drums.

Move Large Machines with Dual Cranes.

FOR VERSATILE LIFTING POWER *specify* **RUGER MULTI-PURPOSE MOBILE HYDRAULIC CRANES**

NEW STACK-OR-LIFT ACCESSORY AVAILABLE For ½, 1 and 2 ton cranes.

Ruger mobile hydraulic cranes reach-in-under-over . . . lift more for less. Only Ruger enables one man to combine almost all lifting, stacking and moving jobs into one operation. Ruger Multi-Purpose crane models are: floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable legs and retractable outrigger for side lifting. Variable speed hydraulic controls at no extra charge. Electric models optional. Get the facts about versatile lifting power, send for data today.

RUGER

The Crane with 1000 uses . . . capacities ¼ to 3 ton.

RUGER EQUIPMENT INC.
619 West Fourth Street
Uhrichsville, Ohio

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FLAMELESS BLOW TORCH

FOR QUICK HEAT UP TO 1000° F.

For applications requiring quick concentrated heat blast up to 1000° F. without flame. Soften, form, mold and patch plastics, etc. Temperature varied by air intake adjustment. 110-230 V. AC-DC motor, 2 or 3 wire plug, 8 ft. heavy duty cord. Intermittent duty.

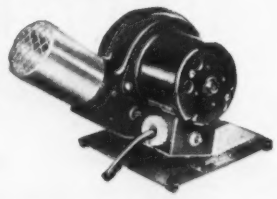
Other models available with lower temp. ranges

Most of the big names in industry use MASTER in laboratories or in production Model 12750—110 volt.

AIR HEATER BLOWER

For quick electrically heated air up to 750° F. For accelerating drying processes or for localized heating. B.T.U. 3400. Air velocity 2000 FPM. 110-230 V. AC only, 2 or 3 wire plug, 8 ft. heavy duty cord. Continuous duty. 2" dia. x 3" long discharge nozzle.

300° F.
500° F.
750° F.



Write today to Dept. 91-I

MASTER Appliance Corp., Racine, Wisconsin

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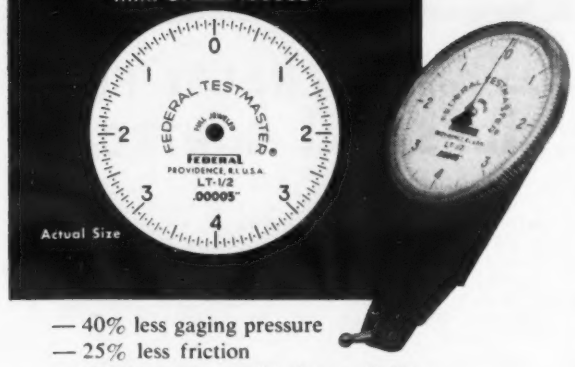
new... super-sensitive TESTMASTER®

Min. Grads. .00005"



— 40% less gaging pressure
— 25% less friction
— .0001" grads. model also available

Write for brochure and prices

FEDERAL PRODUCTS CORP.
1179 Eddy Street, Providence 1, Rhode Island

Ask FEDERAL® *First*

for recommendations in modern gages... Dial Indicating • Air • Electric or Electronic — for inspecting, measuring, sorting, or automation gaging.

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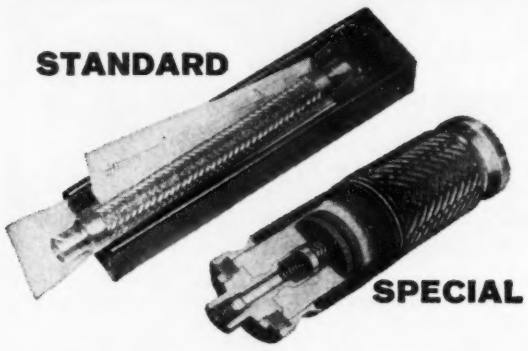


ANACONDA METAL HOSE

Whether your piping troubles are ordinary or unusual, you can count on Anaconda Metal Hose to solve the toughest problems of expansion and contraction, high or low temperatures, vibration, corrosion, pressure, abrasion. Anaconda Metal Hose comes in a complete range of standard types, sizes, materials . . . and Anaconda engineers are available to discuss your special piping problems.

For complete technical and engineering assistance write Anaconda Metal Hose, P.O. Box 791, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario. 61-940

ANACONDA® METAL HOSE

▲ For more details circle **NED-724 J1** on enclosed inquiry slip ▲

SLASH **washing costs**

with **John BEAN**

AQUABLAST

HIGH PRESSURE WASHERS

One man with AQUABLAST equals a crew of men using ordinary water pressures. The important difference is that water, discharged at 600 lbs. pressure from an Aquablast gun, cuts through caked dirt, hardened deposits, gummy residues or accumulated grime like magic! John Bean Aquablast Washers are complete, motor driven pumping units for use with 1 to 3 guns.

IS YOUR CLEANING PROBLEM ONE OF THESE...OR SIMILAR?

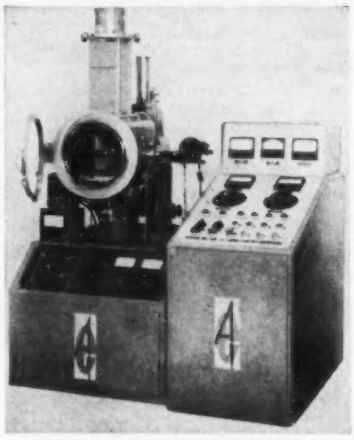
- Processing tanks
- Metal rust or scale
- Heat exchanger tubes
- Boxcar interiors
- Cement trucks
- Animal carcasses
- Food plant floors
- Chemical residues

Send information request form — today!

John BEAN — DIVISION OF FOOD MACHINERY & CHEMICAL CORP. INDUSTRIAL SALES DEPARTMENT LANSING MICHIGAN • SAN JOSE, CALIFORNIA

▲ For more details circle **NED-725 J1** on enclosed inquiry slip ▲

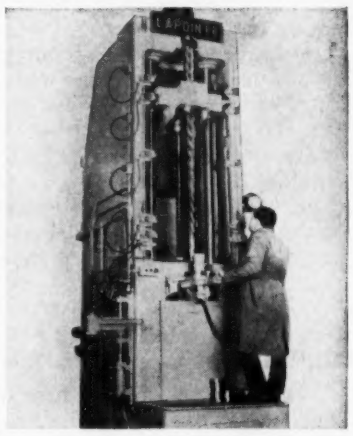
ELECTRON BEAM WELDER
for refractory and reactive metals



Successfully used for welding and brazing beryllium, titanium, tantalum, and other refractory or reactive metals, the Mark VI electron beam welder is rated 0 to 20 kv and 0 to 300 ma. It is a complete system that includes an electron gun, vacuum chamber, mechanical roughing and diffusion pumps, power supply, and console. Fixtures inside the vacuum chamber permit spot, longitudinal, annular, and circumferential welds. The handy control permits adjustment of the electron gun supply, the spot diameter from 0.01 to 0.5 in., and focal length from 4 to 12 in. • **Alloyd Electronics Corp.**, 37 Cambridge Parkway, Cambridge 42, Mass.

▲ For more details circle **NED-726 J1** on enclosed inquiry slip ▲

BROACHING MACHINE
twin ball screws pull tool upward through a smooth 72-in. stroke



Pair of matched ball screws, driven through a gear box, pulls the cutter of Model VUE-4 broaching machine up through a 72-in. stroke. Machine ways and slide are used only to guide and stabilize the broach. Chatter is completely eliminated by the 30-hp electromechanical drive, greatly improving surface finish.

On one application, machine broaches an automotive transmission pump gear with 29 helical involute splines from a 2.913-in. hole. Two gears are broached at one time at a rate of 120 per hour, using a broaching speed of 20 fpm. Pushbutton controls provide manual, semiautomatic, or automatic operation, and an independent auxiliary hydraulic system operates the fixture and broach lifter mechanism.

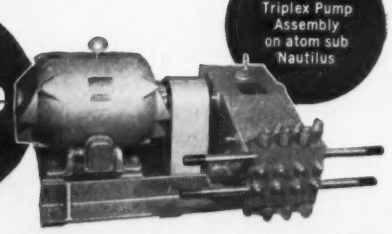
Broach operates at speeds infinitely variable from 5 to 40 fpm and which can be changed automatically at any predetermined point in the stroke. It can be provided with an automatic chip conveyor or chip separator. • **Lapointe Machine Tool Co.**, Hudson, Mass.

▲ For more details circle **NED-727 J1** on enclosed inquiry slip ▲

for PRESSURES to 12,000 lbs.
TEMPERATURES to 500° F.

John BEAN

high pressure pumps



Rugged, compact John Bean Triplex Pumps are the answer for high pressure pumping applications, among them coolant pumping in atomic reactors. Pressures range from 1000 to 12,000 psi, fluid temperatures to 500° F. Important design features include:

- Lifetime Sapphite plungers
- "Roto-splash" drive end lubrication
- Distortion-free cast iron housings.
- Free-acting ball-type and spring loaded poppett valves, replaceable valve seats

also: John Bean vertical duplex pumps — pressures to 1000 psi, temperatures to 200° F.

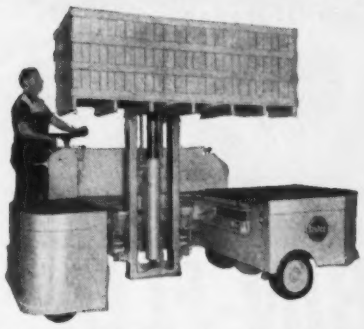
John BEAN — DIVISION OF FOOD MACHINERY & CHEMICAL CORP. INDUSTRIAL SALES DEPARTMENT LANSING MICHIGAN • SAN JOSE, CALIFORNIA

▲ For more details circle **NED-728 J1** on enclosed inquiry slip ▲

BAKER *Traveloader*®

Capacities 4,000 through 6,500 lbs.

Write for BAKER application story BAS-613



Side-loading electric fork truck with cushion tires. Works in extremely narrow aisles, stacks capacity loads to 144" heights. Various lift heights available. Permits straight-line pick-up and delivery. *Call your BAKER Industrial Trucks Representative for information on "a complete line for every handling need".*

OTIS ELEVATOR COMPANY — *Baker Industrial Trucks Division* — 8045 BAKER AVENUE CLEVELAND 2 OHIO

▲ For more details circle **NED-729 J1** on enclosed inquiry slip ▲

BAKER Electric Fork Trucks

Capacities range through 7,000 lbs.

Write for BAKER application story BAS-611

Short turning radius, hydraulic wheel brakes, exceptional driver visibility and exclusive BAKER dual dynamic braking are features of BAKER's efficient FT series. Standard full capacity lifts up to 144". Higher lifts available. *Call your BAKER Industrial Trucks Representative for information on "a complete line for every handling need."*

OTIS ELEVATOR COMPANY — *Baker Industrial Trucks Division* — 8045 BAKER AVENUE CLEVELAND 2 OHIO

▲ For more details circle **NED-730 J1** on enclosed inquiry slip ▲

50% MORE G.P.M. AT NO EXTRA COST

NEW JOHN BEAN TRIPLEX PUMP

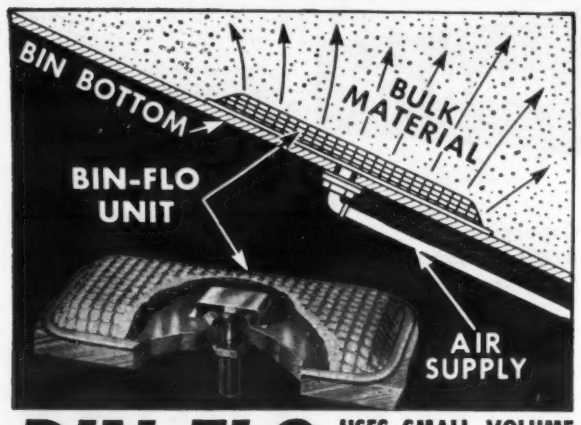
Now, with a re-designed fluid end, John Bean's new 7000 Series triplex pumps offer a 50 per cent increase in g.p.m. displacement at no extra cost with no increase in size or weight. In addition to greater capacity, the compact pumps feature easier-than-ever maintenance with "slip in" cylinder and valve covers, and valve seats. The fluid end may be specified in one of several materials to handle most any liquid, including cast or forged steel and 304 or 316 stainless steel.

- rated capacity from 1 to 90 g.p.m. at pressures from 100 to 10,000 p.s.i.
- spring loaded poppet valves
- fluid temperatures to 500° F.
- Outside packed, lifetime Sapphite plungers

WRITE TODAY FOR FREE CATALOG L-1484

John BEAN — DIVISION OF FOOD MACHINERY AND CHEMICAL CORPORATION INDUSTRIAL SALES DEPARTMENT LANSING, MICHIGAN • ORLANDO, FLORIDA • SAN JOSE, CALIFORNIA

▲ For more details circle **NED-731 J1** on enclosed inquiry slip ▲



BIN-FLO USES SMALL VOLUME OF AIR AT LOW PRESSURE

KEEPS BULK MATERIALS MOVING

BIN-FLO units in bins, chutes, hoppers, etc., restore flow characteristics to dry, finely ground materials which tend to pack or bridge in storage. Types for all materials and conditions. No moving parts; simple installation; negligible operating cost; no maintenance cost.

BIN-DICATOR the original diaphragm-type bin level indicator. In successful use for over 20 years. **ROTO-BIN-DICATOR** new, motor-driven paddle type; excellent on bins under pressure or vacuum, and for general application. Also explosion-proof units, U.L. listed.

THE BIN-DICATOR CO. 17190-A Denver • Detroit 24, Mich.

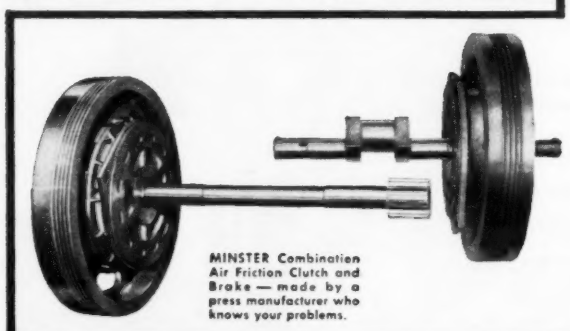
Write for detailed literature or call TUxedo 2-3000

WE SELL DIRECT • PHONE ORDERS COLLECT

For more details circle NED-732 J1 on enclosed inquiry slip

TO INCREASE PRESS EFFICIENCY

MINSTER® CLUTCHES FOR PRESS CONVERSIONS



MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

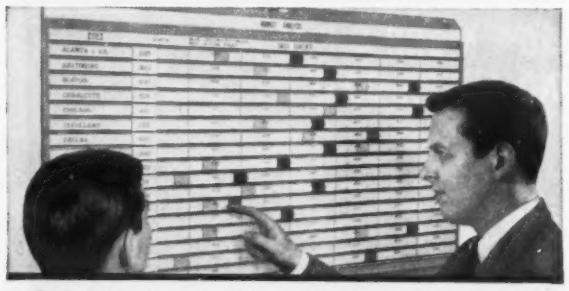
Here's why it is profitable to convert to Minster Clutches:

- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

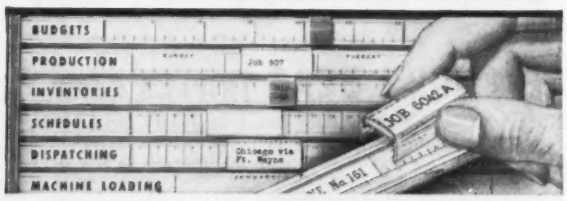
Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

For more details circle NED-733 J1 on enclosed inquiry slip



Quickly chart action, facts or trends with ACME VISIBLE CONTROL PANELS



Acme Control Panels adapt to your exact needs: Unlimited charting possibilities. Transparent colored signals flag due dates, reorder levels, quotas, goals. Signals slide smoothly . . . override or by-pass each other.

ACME VISIBLE

ACME VISIBLE RECORDS, Inc.
3409 West Allview Drive, Crozet, Va.
Please give me colorful booklet on new Acme Visible Visual Control Panels and their many uses. I am interested in____ _____type of record.
NAME_____ POSITION_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE____

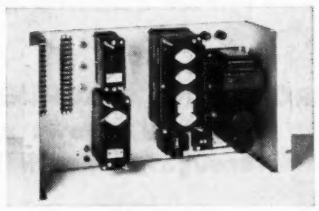
For more details circle NED-734 J1 on enclosed inquiry slip

STEM THERMOMETERS in ranges from −40 to 750° F

Line of precision stem thermometers which feature anti-parallax dials consists of −40 to 160, 0 to 220, 50 to 300, and 150 to 750° F ranges. Base and butt of the stem are inert gas welded for high pressure use, and the bimetallic element and drive rod are silicone damped to eliminate vacillating readings under vibration. Recalibration is easy. Over-range protection is 50 per cent for ranges up to 300° F; 10 per cent up to 750° F. Thermometers have a 2⅝-in. dial and stem lengths of 2½, 6, 9, and 12 in. They are accurate to ±½ per cent over the entire range. Prices vary from $12.95 to $15.95. • **Pacific Transducer Corp.**, 11836 W. Pico Blvd., Los Angeles 64, Calif.

For more details circle NED-735 J1 on enclosed inquiry slip

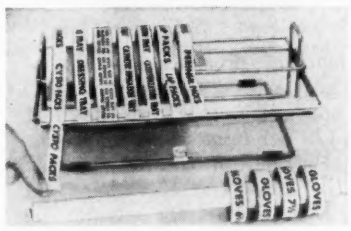
ELECTRONIC CONTROLS PACKAGE used with servo valves, mechanisms



Building-block type electronic package is fully transistorized and designed for use with servo valves and electrohydraulic servomechanisms in numerical and tracer control for machine tools. Package consists of power supply, operations amplifier, carrier generator, and power demodulator, each of which is packaged in a plug-in can and mounted on the chassis. Components incorporated into one package depend upon system design and requirements. Package is also used for driving servo valves in printing press control, structural testing, radar unit drives, rocket launchers and ground handling equipment, and flying shear cutoff controls. • **Moog Servocontrols, Inc.**, Industrial Div., Box 8, East Aurora, N. Y.

For more details circle NED-736 J1 on enclosed inquiry slip

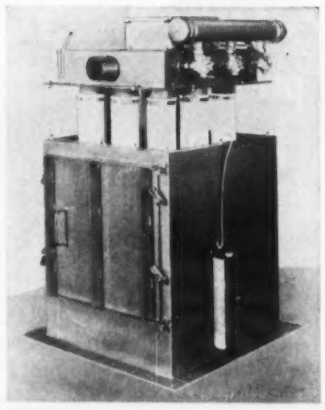
MULTIROLL TAPE DISPENSER for 1 and 3-in. tape roll cores



Numerous types of pressure-sensitive tapes can be accommodated on this portable or stationary multiroll dispenser, equipped with a cutting blade along its 15½-in. front edge. A standard removable 3-in. bar mandrel holds tape on 3-in. cores, and an extra wooden mandrel is available for tape on 1-in. cores. Both can be used at the same time. Thirteen ⅜-in. wide empty roll cores are furnished for separating and spacing the various tapes. Additional ½, ¾, and 1-in. width spacers are available. Three spring clips fasten the unit to a table or vertical surface. Dispenser is priced at $12.95. • **Noel Mfg. Co.**, 1415 S. Meeker Ave., Muncie, Ind.

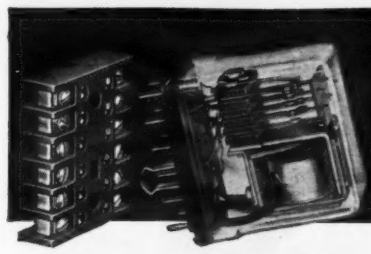
For more details circle NED-737 J1 on enclosed inquiry slip

DUST COLLECTOR for pneumatic conveyor-receivers



Compact Mikro-Pulsaire Bin Vent dust collector for use with pneumatic conveyor-receivers can be installed with filter bags projecting directly into the customer's bin, or with its own filter housing for mounting on top of the bin. Electrically timed jets of high velocity air clean the filter elements. Three models, in either design, afford 25, 42, and 63 sq ft of filter area. Air-to-cloth ratios are 5 to 15 cfm per sq ft. Automatic start-stop operated by a signal from a pressure sensing device is optional. Typical uses include venting an air conveyor or Air-slide, and relieving nuisance dust areas in an elevator system. • **Pulverizing Machinery Co.**, Chatham Road, Summit, N. J.

For more details circle NED-738 J1 on enclosed inquiry slip



Dunco's answer to over-relayed industrial controls!

***An important* RELAY FOR INDUSTRIAL CONTROL!**

This sturdy, moderately priced unit says "good bye" to any need for using costly, oversize relays to insure real industrial control dependability! Equipped with heavy duty 12-pin plugs and industrial-type sockets, Dunco 219 Frame Relays have proved outstandingly successful on lab-type "tail chasing" circuits and on numerous machine control installations requiring complete dependability and long life (20 million operations.)

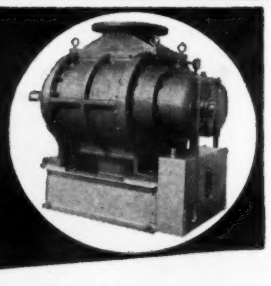
10 amp. current-carrying parts. 150 v. electrical spacings. Withstand 1500-v dielectric test. Three standard contact arrangements at *minimum* prices facilitate circuitry standardization and simplify replacement.

Write for Dunco Bulletin 2219.

STRUTHERS-DUNN, Inc.
PITMAN, N. J.
World's Largest Assortment of Relay Types

For more details circle NED-739 J1 on enclosed inquiry slip

SUTORBILT... NEW BLOWERS AND GAS PUMPS, SERIES 3200



Series 3200 Sutorbilt lobe type positive blowers and gas pumps are heavy duty, high performance units which are designed to handle from 800 to 23,000 cfm at pressures from 2 to 12 psi. Available with timing gear diameters from 10" through 26" in horizontal designs. Also, many sizes are offered with vertical case arrangements.

3200 SERIES DESIGN FEATURES:

- distortion-free construction at maximum operating pressure
- one piece 4140 forged steel shafts slip fitted through impellers attached at the gear end allowing increased pressures and horsepower ratings
- alloy steel helical timing gears insure accurate phasing
- internally ribbed impellers provide high strength and stability
- machined sub-bases furnished with all units
- force feed pressure system lubricates timing gears and bearings
- mechanical seals prevent leakage or gas contamination in gas and vacuum pumps

Write for descriptive literature, Department E

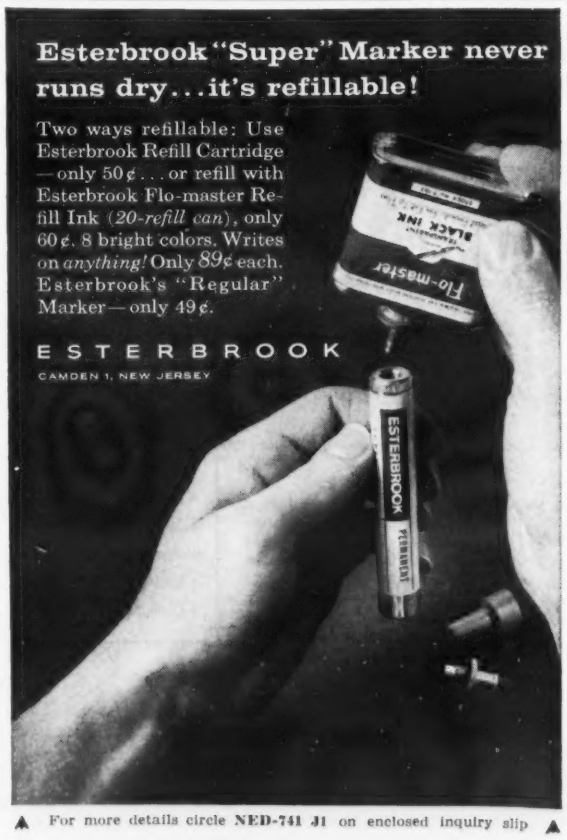
SUTORBILT IS WELL BUILT — CORPORATION, 2966 EAST VICTORIA ST. • COMPTON, CALIF. SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.

2620 S-29A

For more details circle NED-740 J1 on enclosed inquiry slip

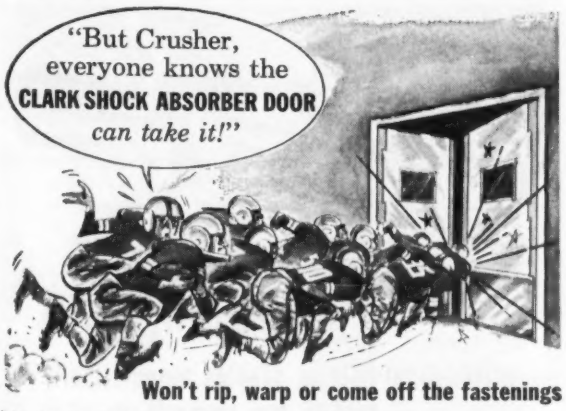
Esterbrook "Super" Marker never runs dry...it's refillable!

Two ways refillable: Use Esterbrook Refill Cartridge — only 50¢ . . . or refill with Esterbrook Flo-master Refill Ink (*20-refill can*), only 60¢. 8 bright colors. Writes on *anything!* Only 89¢ each. Esterbrook's "Regular" Marker — only 49¢.



ESTERBROOK
CAMDEN 1, NEW JERSEY

For more details circle NED-741 J1 on enclosed inquiry slip



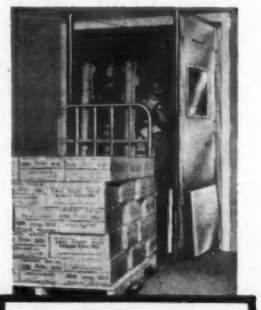
Won't rip, warp or come off the fastenings

The Bumper Takes the Shock — Not the Door

The Shock Absorber Door keeps traffic moving without slow-downs or bottlenecks.

Flexibly suspended, this lightweight door opens and closes freely, either manually or when pushed by a truck. Exclusive Urethane-filled Bumpers absorb shocks that would wreck ordinary doors. Spring Retriever returns door to closed position. Neoprene sealing at all edges assures tight, draft-free closure. Keeps wanted air IN—unwanted air OUT.

Low in cost, the Shock Absorber Door comes in one complete, easy-to-install unit. Needs virtually no maintenance. See our insert in Sweet's Catalog, or write today for full information.



CLARK DOOR COMPANY, INC. since 1878

511 Hunterden Street
Newark 8, New Jersey

▲ For more details circle NED-742 J1 on enclosed inquiry slip ▲

GPE Controls

WEB and STRIP GUIDES

Save TIME...MONEY...MATERIAL!

Send for NEW Catalog EG-84

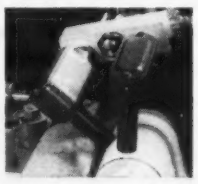
Photos and diagrams representing thousands of installations; complete details on world's broadest line of web and strip guides.

- Laminate without trim!
- Speed up presses while you keep accurate side register!
- Slit without side trim!
- High-speed textile tentering with minimum selvage.
- Track conveyor belts, abrasive belts, etc., up to 5,000 feet per minute.
- Winds 100-ton steel coils evenly to protect edges.
- Web edge position, porosity, opacity, or reflectance sensed by air or photoelectric heads.
- Non-clog air sensing head (patented) never touches web, works perfectly with linty, dusty, or abrasive webs.
- Hydraulic actuation for unlimited power and speed, high frequency response.
- Engineered by specialists in industrial automatic controls.

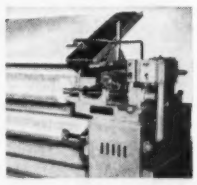
GPE Controls, Inc.
258 E. Ontario St., Chicago 11, Ill.

43 MODELS
...one just right for your job!

Medium-duty model with air sensing, positioning knives on rubber calender.



Photoelectric reflected light head following line on printed carton stock to eliminate slitting.



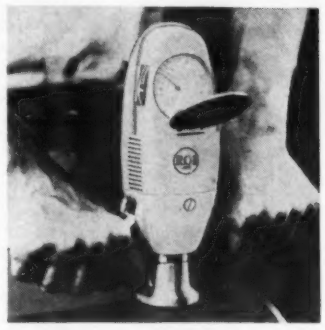
Light-duty unit with air sensing, applied to textile machinery.

GPE Controls

A subsidiary of General Precision, Inc.

▲ For more details circle NED-743 J1 on enclosed inquiry slip ▲

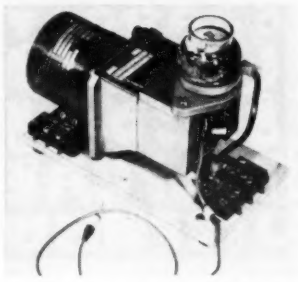
PORTABLE HARDNESS TESTER
used with or without stand



Readings in both Vickers (40-1000) and C scales (20-70) are given on the dial of this portable hardness tester. It is used as a bench type unit for inspecting small parts. When removed from its stand and equipped with hand grips, it checks hardness of large objects or parts with complicated contours. Instrument will test aluminum, copper, and other soft metals with thicknesses over 0.6 mm. Standard accessories include flat and V anvils, inclined bed and gage, and indenter adjusting tools. Price is $495. • **Radio Corp. of America,** Industrial & Automation Div., 12605 Arnold Ave., Detroit 39, Mich.

▲ For more details circle NED-744 J1 on enclosed inquiry slip ▲

THERMOELECTRIC COOLERS
cool small remote devices or systems

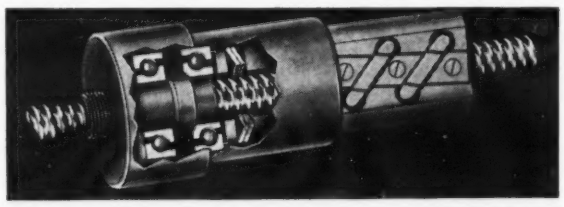


An infrared detector cell mounted on a four-stage cascaded thermoelectric cooler in a vacuum enclosure comprises the Pesco ICER (Infrared Cell Electronically Refrigerated). Devices are capable of achieving −78 to −90° C. The four-stage unit can cool a 15-mw load to −78° C when used with a heat sink at +27° C. These micro refrigerators are also used to cool diodes, crystals, transistors, and maser and parametric amplifier components, especially those widely separated in physical location. • **Borg-Warner Corp.,** Pesco Products Div., 24700 N. Miles Rd., Bedford, Ohio.

▲ For more details circle NED-745 J1 on enclosed inquiry slip ▲

BALL BEARING SCREW
freewheels at any position in stroke

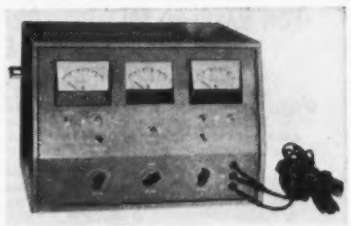
Load-sensitive preloading of these ball bearing screw assemblies eliminates jamming and resulting breakage by halting travel of the ball nut when load reaches



the preset amount. This can be at any position along its stroke. Freewheeling of the ball nut and continuing screw rotation are made possible by providing two angular contact ball bearings and Belleville washers in a split housing attached to the nut. Wide range of sizes is offered. Illustrated unit has a ball circle diameter of 3/8 in. and measures 1 3/8 in. OD. Torque transmittal is adjustable up to 8 lb-in. • **General Motors Corp.,** Saginaw Steering Gear Div., 3900 Holland Rd., Saginaw, Mich.

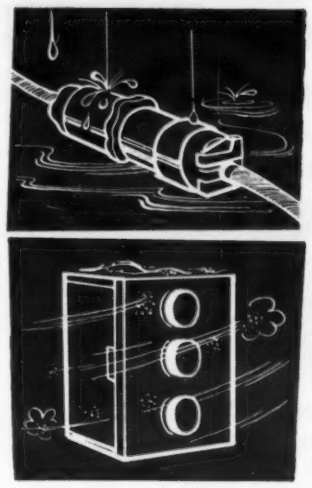
▲ For more details circle NED-746 J1 on enclosed inquiry slip ▲

TRANSFORMER TESTING UNIT
checks insulation breakdown, leakage



A combination of two alternating current Hypot test sets together with a phase shift network, Model 4075 test unit will simultaneously check two windings of a transformer for leakage to ground over a range of 0 to 10 kv ac. Since the phase relation between the two high voltage outputs from the set is continually adjustable from 0 to 90 degrees, potential between the two windings can be varied, and is independently metered as required. Insulation breakdown for each winding is indicated separately. Instrument operates from 115 v ac line and meets MIL-T-27A specifications. • **Associated Research, Inc.,** 3777 W. Belmont Ave., Chicago 18, Ill.

▲ For more details circle NED-747 J1 on enclosed inquiry slip ▲



SILICONES SEAL-OUT TROUBLE

Dow Corning SILICONE COMPOUNDS seal out condensation, dust, fly ash, alkalis, acids, corrosive fumes and other contaminants . . . prevent grounds, shorts and arcs . . . lubricate and protect gaskets on special enclosures.

Keep an applicator tube handy to fill voids, coat surfaces, lubricate gaskets and threads — to apply wherever contaminants could cause trouble.

FREE SAMPLE and information. Write today. Dept. A821.

first in silicones **Dow Corning CORPORATION**
MIDLAND, MICHIGAN

▲ For more details circle NED-748 J1 on enclosed inquiry slip ▲

GLOVE BUYERS ARE SAVING 40% to 70%

In cost-minded companies, older types of work gloves have been widely replaced with Edmont coated gloves *designed to fit the job application.* Often a job-fitted glove that costs less will wear several times longer and give better hand protection and dexterity. Savings of 40% to 70% are typical. We will gladly cooperate on a testing program to determine your maximum saving.

SNORKEL

SUPER-FLEXIBLE VINYL plastic with good solvent resistance and non-slip wet grip. 2-piece jersey liner and seamless palm give extra dexterity and comfort. 6 styles.

MONKEY GRIP

TOUGH VINYL PLASTIC for superior abrasion resistance. 2-piece easy-flex liner increases flexibility. 10 styles.

NEOX

REINFORCED NEOPRENE gives best all purpose protection against solvents, snagging, abrasion and heat. 8 styles.

GRAB-IT

ROUGH FINISH natural rubber coating gives positive non-slip grip, wet or dry, resists cutting and abrasion. 8 styles.

FREE TEST OFFER TO D&B LISTED FIRMS: Clip this form to your letterhead. We will send correct gloves for on-the-job test. Edmont Inc., 1240 Walnut St., Coshocton, Ohio. In Canada, Edmont Canada Ltd., Cowansville, Quebec.

Operation_____

_____

Oil, Solvent or Chemical_____

Temperature Extreme_____ Problem: ( ) Cost Saving ( ) Safety ( ) Dexterity ( ) Employee Satisfaction

Edmont JOB-FITTED GLOVES

▲ For more details circle NED-749 J1 on enclosed inquiry slip ▲

MULTIPLE USE

☆ Sweeps storage areas, plant aisles, driveways, yards, sidewalks, ramps, docks, parking lots . . . even grass cuttings.

☆ Handy for fast, low cost snow removal — up to 6" deep — from streets, sidewalks, parking lots.

JOB-PROVED FEATURES

☆ Hydraulic model offers finger-touch control of two-way sweeper angle, brush lift and brush rotation. Brush raises 8" to clear obstructions; brooms available with 32" diameter, 60" and 72" lengths.

☆ Low cost mechanical unit has 30° sweeping angle, 5' and 6' brush lengths, sprinkler attachment available.

Easily removed or attached, M-B Sweepers fit most any popular tractor. See your tractor dealer now or write the M-B Corp., New Holstein, Wis., for complete information. Dept. NED

M-B CORPORATION NEW HOLSTEIN WIS

REFUSE PACKERS
LINE STRIPERS SWEEPERS

QUALITY MUNICIPAL & INDUSTRIAL EQUIPMENT SINCE 1907

For more details circle NED-750 J1 on enclosed inquiry slip

LESS LINER, MORE COATING,
BETTER PROTECTION, LONGER WEAR . . .

NORTH PVC GLOVES

These features, combined with better fit, more comfort, greater dexterity, and maximum resistance to chemicals, oils, greases, etc., mean lower coated glove costs, higher worker output.

For outstanding hand-to-shoulder protection with an uncoated material, insist on Jomac terry cloth gloves, hand guards, pads, mitts and safety sleeves. The loop-pile fabric is long-lasting, cut, abrasion and heat-resistant—and washable.

To keep dry, comfortable and safe in foul weather, insist on North PVC Wet-Weather Clothing . . . tough, flexible, nonaging, waterproof, resistant to abrasion and most oils, greases and chemicals. Available in high-visibility safety yellow.

WRITE TODAY FOR FOLDER DESCRIBING THESE OUTSTANDING PROTECTIVE PRODUCTS BY JOMAC

JOMAC Jomac Inc., Dept. G Philadelphia 38, Pa.

In Canada: James North Canada Company Ltd., Simcoe, Ont.

"JOMAC Sells Quality . . . and Quality Sells JOMAC!"

For more details circle NED-751 J1 on enclosed inquiry slip

TRANSIENT VOLTAGE INDICATOR
senses 1 microsecond transients

Battery-operated, transistorized Model 741A transient voltage indicator will show transient voltages as short as 1 microsecond in an electronic circuit. Transients with an amplitude of 0 to 2000 v will trip the unit and cause the panel lamp to glow. Instrument is accurate within ±2 per cent of scale using the charts supplied, and can be calibrated for specific voltages within ±0.25 per cent. In addition to calibration chart, a 4-ft test probe with alligator clips is provided. Price is $195. • **Trott Electronics, Inc.,** 412 Smith St., Rochester 6, N. Y.

For more details circle NED-752 J1 on enclosed inquiry slip

IDENTIFICATION TAGS
withstand severe heat and weather

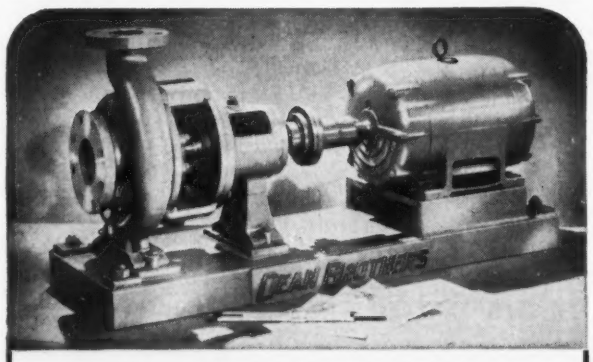
Over 100 different, distinctive, and easily recognized shapes are available in Eve-Dent tags, used for distinguishing between closely allied materials, parts, and other equipment. Made of carbon steel, they are attached to a product early in its processing and are kept on until final use. Identifying shape is retained under severe heat and extreme weather conditions. • **Broomall Industrial Sales Co.,** 55 E. Ann Rd., Broomall 70, Pa.

For more details circle NED-753 J1 on enclosed inquiry slip

SAFETY SHOE
orthopedic type has wooden sole

Designed to keep workers on the job, this combination orthopedic and safety shoe serves a variety of rehabilitative uses. Its nonslip wooden sole acts as a splint to keep the foot immobile, thus hastening the healing of broken toes, feet, burns, or bursitis. Shoe has a soft airfoam inner sole for comfort and adjustable canvas tops in olive drab or white. Shoe can be worn on either foot and is available in men's and women's sizes. Price is $6 per pair, or $7.30 with optional corrugated metal guard over toes and instep. • **Reece Wooden Sole Shoe Co.,** Columbus, Nebr.

For more details circle NED-754 J1 on enclosed inquiry slip



FOR EASE IN SOLVING CORROSION PROBLEMS
CHECK THE 4 E's OF
DEAN BROTHERS TYPE pH PUMPS

✓ Easy to Select—28 sizes (14 horizontal, 14 vertical) available in 14 corrosion-resistant alloys, to fit your special pumping problem.

✓ Easy to Install—Centerline suction and discharge connections. No need to remove from suction or discharge piping for servicing.

✓ Economical to Buy—Low first cost combined with easy servicing and maximum interchangeability of parts make pH pumps lowest cost in the long run.

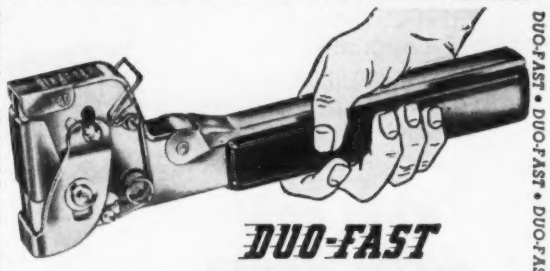
✓ Economical to Operate—Fully open impellers for slurries and clear liquids contribute to long, trouble-free service life with minimum down-time.

For Complete Information Write for Circular 217

DEAN BROTHERS PUMPS INC.
INDIANAPOLIS 7, INDIANA
The Best Is Our Standard

For more details circle NED-755 J1 on enclosed inquiry slip

• DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST •



DUO-FAST
HAMMER TACKER

Drives tight-holding staples automatically as fast as you swing it

For fast manual tacking you can't beat DUO-FAST Hammer Tackers. A great tool for 1001 fastening jobs in shipping, packaging and production work.

You'll like the perfect balance and easy one-hand operation. Five fully guaranteed models to drive 3/16" to 9/16" DUO-FAST Staples.

Send today for details on how Hammer Tackers speed and simplify your work.

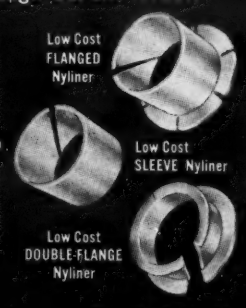
FASTENER CORPORATION, 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

For more details circle NED-756 J1 on enclosed inquiry slip

THOMSON "Snap-In" NYLINERS
—BEARINGS of smooth, tough DuPont NYLON

COST less to BUY
...less to INSTALL
ELIMINATE LUBRICATION!



Additional Benefits:

- CLOSE FIT
- LONGER LIFE
- EASILY INSTALLED
- LESS SERVICING
- SELF-RETAINING
- RESIST CORROSION
- LOW FRICTION
- RESIST POUNDOUT
- NO FRICTION OXIDATION
- DAMP VIBRATION
- OPERATE IN LIQUIDS
- NON-CONTAMINATING
- INSTANTLY REPLACEABLE
- RESIST ABRASION
- MINIMUM SPACE
- SILENT OPERATION
- LIGHTEST WEIGHT
- REDUCED WEAR

NYLINER Bearings are a highly engineered thin liner of DuPont Nylon, designed to bring bearing users the many benefits of Nylon as a bearing material by solving most of the limitations surrounding its use. The compensation gap principle assures maintenance of diametral tolerances for precision applications.

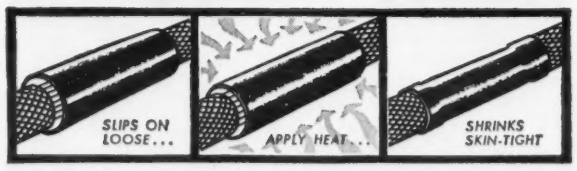
Seven Standard Types available from stock. Write for literature and name of your local representative who stocks NYLINER Bearings for immediate shipment.

THOMSON INDUSTRIES, Inc.
DEPT. 9, MANHASSET, NEW YORK

Also— —Manufacturers of BALL BUSHINGS . . . the Ball Bearing for Linear Motions and 60 CASE . . . Hardened & Ground Steel Shafting

For more details circle NED-757 J1 on enclosed inquiry slip

NEW INSULATION DISCOVERY
SHRINKS WITH HEAT!



Cover . . . protect . . . insulate in minutes with

SCOTCHTITE BRAND
HEAT REACTIVE TUBING

Now you can add a tough, smooth, seamless vinyl coat to wires, rods, tubes, even odd shapes with "SCOTCHTITE" Heat Reactive Tubing. Just slip "SCOTCHTITE" Tubing over object to be covered—apply heat—and almost immediately the tubing contracts to form a skin-tight insulating cover. Harness cables, ground straps, bus bars, high voltage leads, and tool handles are just a few of the many possible applications. Available in sizes ranging from 3/64 up to 5¼ inch diameter.

What can you do with "SCOTCHTITE"? Send for free sample and complete information. Write Irvington Division, 3M Company, 900 Bush Avenue, St. Paul 6, Minnesota, Dept. EBM-91.

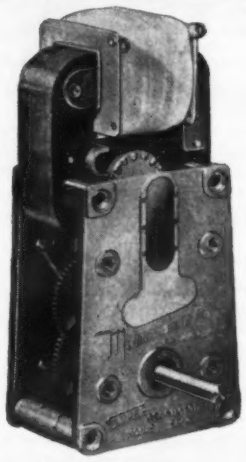
"SCOTCHTITE" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN. EXPORT: 99 PARK AVE., NEW YORK 16. CANADA: LONDON, ONTARIO.

MINNESOTA MINING AND MANUFACTURING COMPANY
. . . WHERE RESEARCH IS THE KEY TO TOMORROW

For more details circle NED-758 J1 on enclosed inquiry slip

GEARMOTORS
6 BASIC SIZES

- Speed up to 200 RPM
- Power up to 40 in. lb.
- Open or enclosed case
- Continuous or intermittent
- Machine cut gears
- Finish ground shafts
- Special features available
- Millions in use
- Prompt delivery
- Samples at once
- Ask for our literature



OPEN TYPE MOTOR

Motoresearch also designs and produces high frequency motors, generators, rectifier type power supplies and other Special Electrical Equipment. We invite your inquiries.

MILLIONS OF MOTORESEARCH GEARMOTORS NOW IN USE!

THE MotoRESEARCH MANUFACTURING COMPANY, INC.
1600 JUNCTION AVE., RACINE, WIS.
Designers and Manufacturers of special electrical equipment

For more details circle NED-759 J1 on enclosed inquiry slip

Nothing SEALS as POSITIVE!

NYLTITE®

ROLLED NYLON WASHERS

make a positive seal up to 250°F and can be used with any standard fastener including tapping screws

NYLTITE WASHERS SEAL AND STOP LEAKS WITHSTAND PRESSURE UP TO 15,000 PSI RESIST VIBRATION • PREVENT CRAZING RETARD ELECTROLYSIS AND ARE EXCELLENT FOR INSULATING

(Long, headed sleeves are also available from stock)

SEND FOR SAMPLES AND LITERATURE NOW!

NYLTITE CORPORATION OF AMERICA
280 BADGER AVENUE • NEWARK 8, NEW JERSEY

For more details circle NED-760 J1 on enclosed inquiry slip

EXTRA TOUGH • MAKE BIG JOBS EASY

WILLIAMS
HEAVY SERVICE
SUPERRENCHES®

For big nut turning jobs requiring man-sized, two-fisted action, — reach for Williams Big Alloy Wrenches. Your Williams Distributor has a complete selection of Structural, Construction, Box and Striking face styles. All drop-forged from selected alloy steel and heat-treated for added toughness. Openings up to 3⅛" have extra built-in strength, yet are designed to overcome clearance problems. Handles provide plenty of extra leverage.

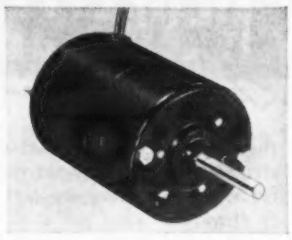
AVAILABLE IN CHROME—AND/OR INDUSTRIAL GRAY FINISHES

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N. Y.

WILLIAMS

For more details circle NED-761 J1 on enclosed inquiry slip

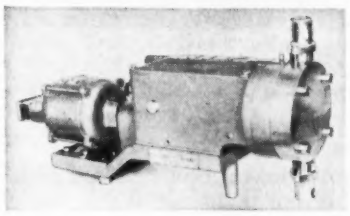
1/40 TO 1/3-HP MOTORS
have various voltages and speeds



Load speeds of Heinze B 1/40 to ⅓-hp motors can vary from 2500 to 20,000 rpm. Voltage ratings range from 4 to 220 v, ac, dc, or ac-dc. Motors have a 3-in. diameter, and are 3 to 4¼ in. long (excluding shaft), depending upon horsepower. They are available with steel or die-cast cases for use in pumps, rug cleaners, vacuum cleaners, power tools, and other uses. • **Heinze Electric Co.,** 685 Lawrence St., Lowell, Mass.

For more details circle NED-762 J1 on enclosed inquiry slip

CHEMICAL PROPORTIONER
maximum capacity is 1.75 gph



Accurate metering of highly corrosive and noncorrosive chemicals without leakage or contamination is possible with the Pulsafeeder Microflo LS-3 unit. It can be used as a sampler, proportioner, filling machine, feeder, pump, or as a means of fluid control by responding to instruments measuring process variables. The external micrometer dial varies the pumping rate in increments of 1/1000 of maximum output while operating or idle. Maximum theoretical capacity is 1.75 gph and pressure rating is 300 psi. Flow ranges up to 6620 cc/hr can be selected. Reagent head assembly with metal diaphragm has a 212° F operating limit. Unit is adaptable to all methods of semiautomatic and automatic pumping. • **Lapp Insulator Co.,** Process Equipment Div., 126 Hall St., LeRoy, N. Y.

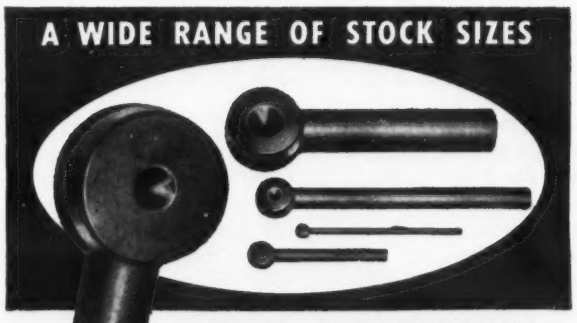
For more details circle NED-763 J1 on enclosed inquiry slip

PORTABLE AIR DRILLS
straight and offset grip models

Drilling capacity up to 5/16 in. and a choice of eight speeds for drilling in steel, cast iron, nonferrous metals, and plastics is given the user of Series 94 portable air drills. Compact units are available in straight models with lever or pushbutton throttle, and offset grip model with trigger throttle. Weights range from 1⅞ to 2⅞ lb, and speeds from 500 to 16,000 rpm. Additional features are built-in lubricators and speed regulators, adjustable exhaust deflectors, and hardened, precision cut gears. • **Thomas C. Wilson, Inc.,** 22-11 44th Ave., Long Island City 1, N. Y.

For more details circle NED-764 J1 on enclosed inquiry slip

A WIDE RANGE OF STOCK SIZES



WILLIAMS
DROP-FORGED
ROD ENDS

Before you consider specials, or make your own, ask your Williams Industrial Distributor to show you the broad line of Williams Rod Ends. They are drop-forged from mild steel which welds easily. Many sizes are centered for fast drilling. Shank diameters from 3/16" to 1¼"... lengths from 1¼" to 24". Head diameters from ⅜" to 2 5/16"... thicknesses from ¼" to 1½".

SAVE WITH STOCK ROD ENDS
36 SIZES TO CHOOSE FROM

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N. Y.

WILLIAMS

For more details circle NED-765 J1 on enclosed inquiry slip

RCA ELECTRONIC METAL DETECTOR

Automatically protects against tramp metal
in foods, plastics, textiles, chemicals, and rock products

When stray metal is detected, the conveyor automatically stops, or the danger zone is marked, even though the "trouble-makers" are hidden from human eyes. Inspects powdered, bulk, sheet or packaged materials.

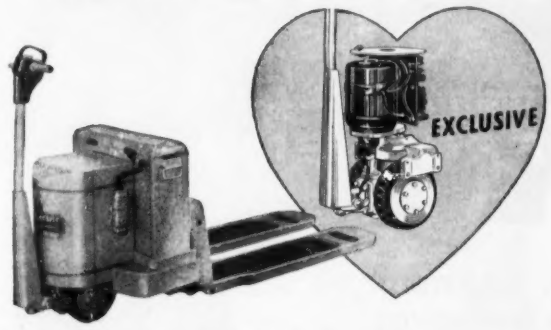
Protects costly machinery!
Safeguards product quality!

Find out all about the RCA Metal Detector . . . how it can save you thousands of dollars . . . quickly pays for itself. Write for free booklet: RCA, Dept Z-329, Building 15-1, Camden, N. J.

RCA The Most Trusted Name in Electronics
RADIO CORPORATION OF AMERICA

For more details circle NED-766 J1 on enclosed inquiry slip

HEART OF THE HydroLectric
THE DYNA-DUAL POWER UNIT



Compare the Hydrolectric features with any other "Driver Lead" Lift Truck. The Hydrolectric quality of construction merits your inquiry. Two driving wheels instead of one — 50% easier steering — ease of maintenance.

NOTE: The Dyna-Dual Power Unit is interchangeable on all models.

LIFT TRUCKS INC. W.W.W. STURGIS CINCINNATI

A TRUCK FOR EVERY PURPOSE AND MATERIAL

LIFT TRUCKS, INC.
CINCINNATI 14, OHIO

For more details circle NED-767 J1 on enclosed inquiry slip

EXTRA TOUGH TO RESIST CONSTANT SHOCK

WILLIAMS
POWER DRIVE
SOCKETS

Your Williams Distributor is ready for action with Williams Power Drive Sockets. Made of extra tough alloy steel. Specially heat-treated to withstand constant impacting and power nut running. Available in 7 drive sizes: ¼", ⅜", ½", ⅝", ¾", 1" and 1½". Hex, double hex and square openings from 3/16" to 3½". Standard and bolt clearance lengths, magnetic styles, plus adapters, extensions and shanks offer complete range of service.

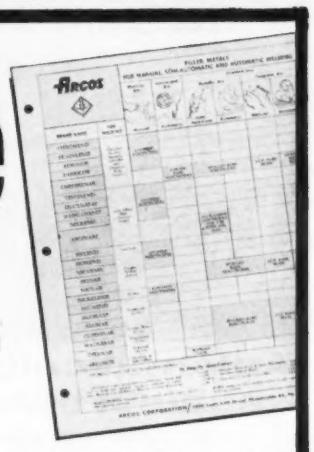
430 SOCKET ITEMS, 7 DRIVE SIZES
FOR ALL TYPES OF POWER WRENCHES

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N. Y.

WILLIAMS

For more details circle NED-768 J1 on enclosed inquiry slip

free



new filler metals chart simplifies selection of welding rods and electrodes

Tells at a glance the type rod or electrode to use for welding stainless, low alloy, non-ferrous and light metals. Covers manual, automatic and semi-automatic welding. Includes data on coated electrodes, coiled and spooled bare electrodes, cut bare rods, spooled bare wire, flux cored electrodes and bonded fluxes. Reverse side packed with AWS standard welding symbols and descriptions in handy form. SEND TODAY! ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

▲ For more details circle NED-769 J1 on enclosed inquiry slip ▲

Honing SOLVES these I.D. & O.D. PROBLEMS

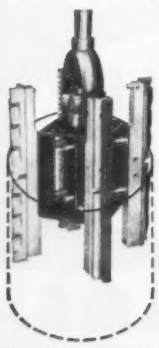
1. DIAMETER
2. ROUNDNESS
3. STRAIGHTNESS
4. SURFACE FINISH

Sunnen Honing corrects errors from previous operations such as out-of-roundness, chatter marks and taper with minimum stock removal.

Model MBB-1290D

●PRECISION HONING MACHINES

For Internal Diameter Work from stock removal to finish sizing—from deburring to micro-fitting. Range .100" through 2.625" with standard tooling; through 4½" with tooling built to order. Accuracy guaranteed to .0001". Controlled surface finish to 2 microinches. See Bulletin X-MAN-5000 I.



●PORTABLE HONES

"The tools of a thousand uses"—for internal dias. of 1¾" through 20½". Accuracy guaranteed to .0005". Controlled surface finish to 5 microinches. See Bulletin X-AN-5001E.

●EXTERNAL HONES (not illus.)

For O.D. dias. of ⅛" through 2¾". Accuracy guaranteed to .0001". Controlled surface finish to 2 microinches. See Bulletin X-MAN-5008D for details.

The Sunnen Honing Process guarantees true round and straight diameters within tolerance, and with any desired surface finish. See how this fast stock removal process increases profits by eliminating bottlenecks and cutting production costs. Ask for a demonstration. No obligation.

COMPLETE INFORMATION AVAILABLE

Ask for listed bulletins or send us data on your specific problems. We'll welcome the opportunity to be of help, without obligation.

SUNNEN® PRODUCTS COMPANY HONING

7933 Manchester Ave. • St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario

8793

▲ For more details circle NED-770 J1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

These catalogs have been selected on the basis of the completeness of their data and their value to the needs of our reader-audience. They are sent to you by the manufacturer or distributor when you circle the proper item number on a self-mailing inquiry slip in the issue. When a price is mentioned or a letter-head request is indicated, you should write to the company.

Casters & Wheels for Every Need

FREE Hamilton Caster & Mfg. Co.—Hundreds of casters and wheels in sizes, styles, and capacities to meet most industrial, commercial, and institutional needs are detailed in 48-page Catalog 150. Cutaways, cross-sections, close-ups, and line drawings of casters, wheels, mounting plates, axles, brackets, and other items amplify the text.

▲ For more details circle NED-771 J1 on enclosed inquiry slip ▲

Self-Sealing Fasteners & Seals

FREE A. P. M. Corp.—Hexseal explosion and high pressure seals for switches and shafts; self-sealing Seelskrews, Seelbolts, and Seelrivits; Rubrglas-Seel transparent and flexible switch seals; power connectors, and AMP fasteners using the Nylok principle are described in 16-page Catalog 359B.

▲ For more details circle NED-772 J1 on enclosed inquiry slip ▲

Numerical Control Data

FREE Friden, Inc.—Valuable guidance about the growing field of numerical control for machine tools is presented in 32-page Bulletin SP 8739. It traces the history and development of metal removing machines and numerical control, defines the meaning of numerical control, and explains the use of punched tape in machine tool applications. Where numerical control is used, programming tapes, standardizing punched tapes, and standardized programming are covered.

▲ For more details circle NED-773 J1 on enclosed inquiry slip ▲

Pressure Sensitive Tapes

FREE Mystik Adhesive Products, Inc.—In "Mystik Tapes Keep Costs Down!" the reader learns how paper masking, packaging, high-low temperature, electrical, printable, and other types of tapes can save time and money. Protective coverings are also covered in the 44-page pocket-sized guide. Characteristics of each tape are given.

▲ For more details circle NED-774 J1 on enclosed inquiry slip ▲

Tube Production Equipment

FREE McKay Machine Co.—Bulletin No. 107 contains 34 pages of information and data on a line of tube production equipment. Described are units for coil handling, strip joining, strip guiding, tube welding, tube finishing, tube cut-off, pipe mills, allied equipment, and replacement rolls. Tube welding mills for diameters to 7 in. are shown.

▲ For more details circle NED-775 J1 on enclosed inquiry slip ▲

Lift Truck Rental Plan

FREE Automatic Transportation Co.—"Which Is Best for You?" is title of 12-page Booklet A-5046 which explains some of the advantages of leasing and renting Automatic industrial power lift trucks. Charts list rentals over various periods. Over 200 industrial truck models are offered under this plan.

▲ For more details circle NED-776 J1 on enclosed inquiry slip ▲

Worm Gear Speed Reducers

FREE Crofts U.S.A. Inc.—Universal mounting type of worm gear speed reducers is stocked in ratios from 5:1 to 60:1, with 1⅛, 1¾, 2¼, and 3-in. centers. Described in 16-page Catalog 571B, they have inputs from 0.12 to 0.61 hp in the smallest size, to 0.86 to 5 hp in the 3-in. size. Right angle units are built for continuous duty in conveyors, hoists, mixers, agitators, and other equipment.

▲ For more details circle NED-777 J1 on enclosed inquiry slip ▲

Variable Transformers

FREE Standard Electrical Products Co.—Adjust-A-Volt variable transformers for bench or panel mounting and in cased or uncased units ranging from 0.165-kva, 1.25 amp to 7 kva, 25 amp, are subject of 40-page illustrated Catalog Section 1. Electrical ratings, specifications, and dimensional diagrams are included.

▲ For more details circle NED-778 J1 on enclosed inquiry slip ▲

USE PNEUMATICS TO SOLVE NEW PROBLEMS

—these Bulletins may help you find low-cost solutions

For dependable functioning of products or equipment you build, *use pneumatics!* Often, air "works wonders" unmatched by other methods. It's a versatile, controllable, economical medium of force and power through vacuum and pressure.

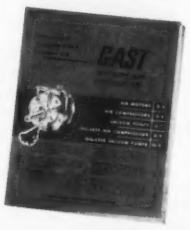
For example:

Gast Rotary Air Motors (to 7 h.p.) deliver reversible, variable-speed, explosion-proof power. They're compact — weigh less — cost less.

Gast Compressors (to 30 p.s.i.) supply air blast or pressure to lift, push, mix, atomize, oxidize, pressurize on many jobs.

Gast Vacuum Pumps (to 28" Hg) are used to hold, lift, position and shape parts — to test, control, fill, evacuate — in 101 ways.

Use pneumatics—"Air may be your Answer!"



WRITE FOR "APPLICATION IDEAS" BOOKLET AND CATALOG!

AIR MOTORS • VACUUM PUMPS • COMPRESSORS
GAST MANUFACTURING CORP.
P.O. BOX 117-R, BENTON HARBOR, MICHIGAN

▲ For more details circle NED-779 J1 on enclosed inquiry slip ▲

One Man Does the Work of Three

with Amazing NEW

TROPICAL DRI-SPRAY WHITE

Get all the time and labor saving advantages of spray painting—with no disadvantages. No need for drop cloths or other protection for floors, desks, or machines when painting inside. Overspray dries as it falls and is dusted or swept away.

Tropical DRI-SPRAY WHITE is a product of the combined research facilities of Parker Rust Proof and Tropical Paint. It beautifies and gives heavy-duty protection to wood, metal, concrete or plaster surfaces indoors. Learn how you can save with Tropical DRI-SPRAY WHITE. Write for free information today!

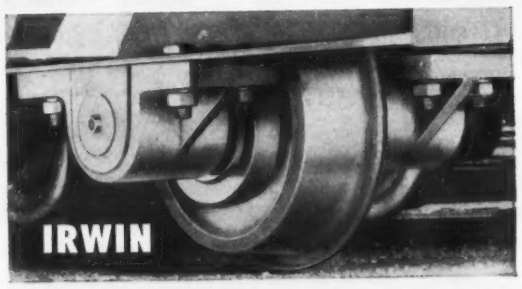
PARKER RUST PROOF PRODUCTS

HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883

TROPICAL PAINT COMPANY
1124-1258 W. 70th, Cleveland 2, Ohio
SUBSIDIARY OF PARKER RUST PROOF COMPANY

▲ For more details circle NED-780 J1 on enclosed inquiry slip ▲

RED HOT and NEW!



PACKAGED WHEEL ASSEMBLIES

for Hi-Temperatures up to 1200°F

At last—Irwin has come up with a packaged wheel assembly for materials handling cars that enables them to work in high temperatures up to 1200°F.

These assemblies are designed primarily for use in heat treating applications and are available in standard wheel diameters ranging from 10-inches to 20-inches. Other sizes are available on request. Production units are made for 50 rpm, but higher speed assemblies can be furnished.

Irwin also manufactures a special high temperature series for applications operating at 700° and 1000° F maximum temperature.

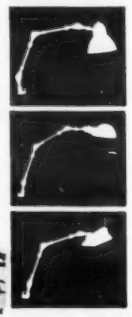
Call or write for the complete line of Irwin Package Wheel Assembly literature and price lists.

IRWIN-SENSENICH CORP.
WHEEL AND CAR MANUFACTURERS SINCE 1900
P. O. BOX 311
IRWIN, PA.
UNderhill 3-5000

▲ For more details circle NED-781 J1 on enclosed inquiry slip ▲

FOSTORIA

BALANCED® LIGHTING PROMOTES INDUSTRIAL SAFETY



Safety means much more than just the absence of immediate danger. True industrial safety in the field of lighting means worker confidence because he can SEE WHAT HE IS DOING. He works with sureness, with speed, with accuracy. He turns out better products faster at less cost. Ask a Fostoria representative to check your production line for BALANCED® lighting. No obligation. In the meantime, write for your copy of "CRITICAL WORK AREA LIGHTING."

FOSTORIA CORPORATION • FOSTORIA, OHIO
MANUFACTURERS OF CRITICAL WORK AREA LIGHTING

▲ For more details circle NED-782 J1 on enclosed inquiry slip ▲

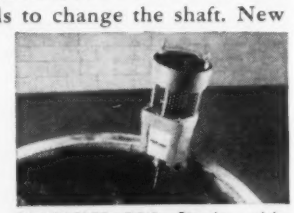
Save power! Handle many jobs with smaller model than before!

You get more work out of these all-new LIGHTNIN propeller-type mixers.

They'll handle bigger batches, heavier materials, or do the job faster—*without using more power.*

Often a smaller, lower-cost model will do the job you want done—*on less power than you've been using.*

In normal use, you won't have to lubricate these mixers for *five years.* Overloads can't hurt the gear drive. The chemical plant motor is standard, at no extra cost. And you don't need three hands to change the shaft. New quick-acting chuck locks it tight when you turn one screw.



PORTABLES, TOO. Simple, quick-acting shaft chuck is always above liquid level. New indexing makes it a snap to set mixer at the correct angle. In nine sizes, ⅛ to 3 hp, gear drive or direct drive. Request Bulletin B-520.

They're ready—in models for open or closed tanks—in eight sizes from ¼ to 3 hp, gear drive or direct drive. Ask your LIGHTNIN Mixer representative for details. Or write us for descriptive Bulletin B-521.

Lightnin® Mixers

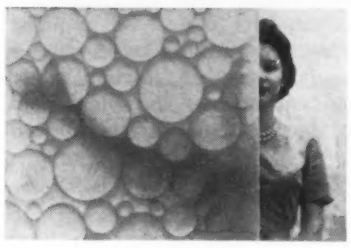
MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-i Mt. Read Blvd., Rochester 3, N. Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.
In Europe: Lightnin Mixers, Ltd., Poynton, Cheshire, England

▲ For more details circle NED-783 J1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

REINFORCED PLASTIC PANELS in sizes up to 4 x 10 ft for outdoor architectural uses

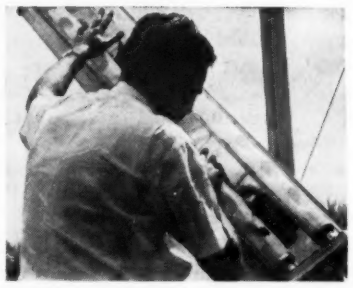


Twenty different colors and white are available in Tropiglas translucent reinforced plastic panels in sizes up to 4 x 10 ft. Thicknesses range from 0.060 to 0.100 in. The outdoor architectural material withstands sunlight and all types of weather extremes without color or surface change. Panels have high light transmission, are shatter resistant, possess good tensile and acoustical properties, and are easily cleaned.

Both flat sheet and sandwich forms are based on an acrylic plastic, reinforced with glass fibers and press-laminated. Sandwich panels are two flat sheets separated by a decorative coring material in five basic patterns, one of which is shown. Uses include glazing, luminous ceilings, curtain walls, doors, partitions, and privacy panels. • **United States Rubber Co.,** Naugatuck Chemical Div., Box 3217, Baton Rouge, La.

▲ For more details circle NED-784 J1 on enclosed inquiry slip ▲

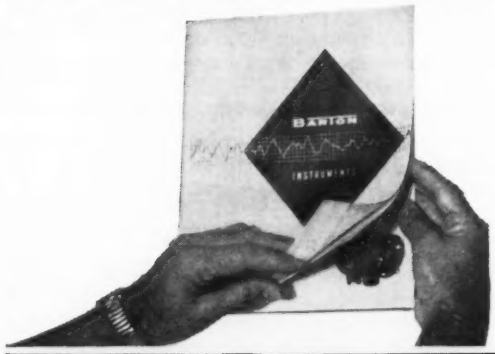
HIGHLY REFLECTIVE METAL for light reflectors and trim



Metallized polyester plastic film permanently bonded to aluminum sheet with a rubber-based adhesive comprises Dynasyl optical finish reflector sheet. The highly reflective material can be bent, drilled, punched, crimped, or formed into lighting reflectors, decorative trim, panel inserts, and other products. Finish resists most acids, alkalies, greases, oils, solvents, many chemicals, outdoor weathering, and salt spray. Photo shows use as a fluorescent light fixture reflector. Material will withstand 275° F for an extended period. Embossed type with various textures can be produced. Both types are available in virtually any size with 0.015 to 0.090-in. metal thickness. • **W. J. Ruscoe Co.,** 483 Kenmore Blvd., Akron 1, Ohio.

▲ For more details circle NED-785 J1 on enclosed inquiry slip ▲

GET THIS VALUABLE NEW INSTRUMENT CATALOG

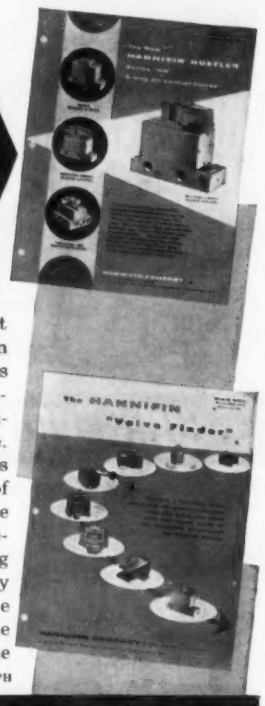


Here's what you should know about Barton differential pressure instruments. Which instruments to use, and where . . . Why a bellows-type meter is superior to a mercury type . . . Why certain meters can be over-ranged, why others can't . . . Descriptions of differential pressure controllers, integrating flow recorders, indicators, recorders, switches and transmitters. All this and more is included in this easy to read reference piece by Barton—and it's yours for the asking. **Write for it today.**

BARTON® INSTRUMENT CORPORATION
580 MONTEREY PASS ROAD • MONTEREY PARK, CALIFORNIA

▲ For more details circle NED-786 J1 on enclosed inquiry slip ▲

NEW "HUSTLER" BY HANNIFIN INCLUDED IN HANDY GUIDES TO AIR VALVE SELECTION



You'll want to know about these new high-speed Hannifin "Hustler" 4-way air valves with low-wattage, nylon encapsulated solenoids guaranteed for the life of the valve. "Hustler's" many new features are described in the first of these two new bulletins. The second bulletin is our new, revised "Valve Finder" giving C_v (flow) ratings on every standard air valve in the Hannifin line, including the new "Hustler" models. Write for your copies today. 8552-PH

PARKER-HANNIFIN
HANNIFIN COMPANY DIVISION
565 South Wolf Road • Des Plaines, Illinois

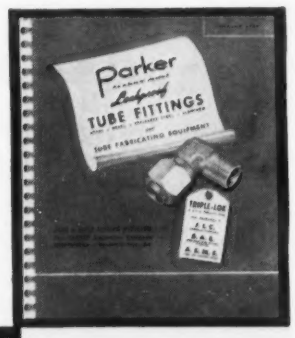
▲ For more details circle NED-787 J1 on enclosed inquiry slip ▲

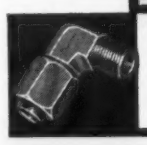
GET COMPLETE HANNIFIN HYDRAULIC CYLINDER DATA —INCLUDING NEW SERIES "L"

Get complete dimensional data and prices on all 3 lines of Hannifin Hydraulic Cylinders. For 2,000 psi systems (3,000 psi non-shock) we offer our famous heavy-duty Series "H". For 1,000 psi circuits, there's the new Series "L", the "thousand-pound" line; also, the "universal" Series "U". New price sheets are easy to use. They tell you how quickly we can ship as well as your cylinder cost. Write us today. 8555-PH

PARKER-HANNIFIN
HANNIFIN COMPANY DIVISION
527 South Wolf Road • Des Plaines, Illinois

▲ For more details circle NED-788 J1 on enclosed inquiry slip ▲





Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-789 J1 on enclosed inquiry slip ▲

Best answer to ALL your hydraulic hose and fitting problems is in this

FREE

SURGEPRUF CATALOG!

It describes the full line of top quality Alemite Surgepruf "Shur-Lock" hydraulic reusable couplings, hose and hose assemblies available for every high, medium-high and low pressure application. Surgepruf Non-Skive hose and Shur-Lock reusable couplings are easy to install, easy to replace. They require no special tools – provide fastest, easiest field assembly.

Dependable Surgepruf products serve every industry. Learn how they can save you time, money, man-hours.

Send for your FREE SURGEPRUF CATALOG #40-25 now!

Symbol of SW Excellence

ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. AK-91, 1850 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-790 J1 on enclosed inquiry slip

GEAR PROBLEMS? Check with- FAIRFIELD!

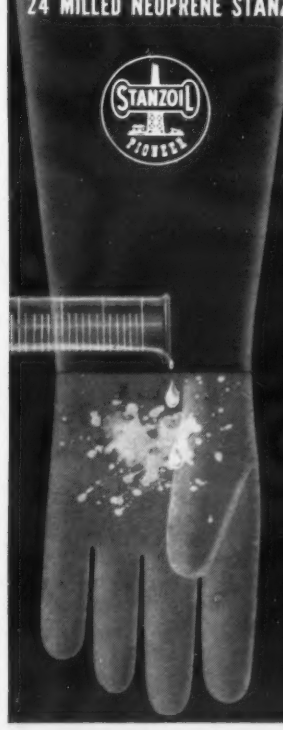
If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet *your specifications* EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of accurate, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. *LARGE or SMALL, your requirements will receive prompt attention. Ask for literature.*

FAIRFIELD Manufacturing Co., Inc.
2335 S. Concord Road
LAFAYETTE, INDIANA

For more details circle NED-791 J1 on enclosed inquiry slip

24 MILLED NEOPRENE STANZOILS FOR LONGER WEAR IN

CHEMICALS



Pioneer chemical resistant gloves go on the job with more wear built in because they're made of **milled** neoprene tested to give longer service in 103 basic oils, greases, acids, solvents, and other chemicals. There are 65 Pioneer Glove styles, including the well-known Pioneer Stanzoil brand, to provide liquidproof hand protection for every industrial job requirement.

PIONEER

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-792 J1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Fasteners for High Temperatures

FREE Mercury Air Parts Co.—Catalog 286 contains 13 pages of engineering prints of bolts, screws, nuts, dowels, and miniature internal wrenching bolts for elevated temperature applications. They are fabricated to AMS 5735 for 1300 to 1800° F service.

For more details circle NED-793 J1 on enclosed inquiry slip

Drill Jig Bushing Speed Selector Chart

FREE Acme Industrial Co.—Individual bushing requirements for various jobs are speedily determined with this 8½ x 13-in. drill jig bushing speed selector chart. It includes standard number, fraction, letter drill sizes with decimal equivalents, and other data for both ASA standard bushings and Acme thinwall bushings.

For more details circle NED-794 J1 on enclosed inquiry slip

Silicone Rubber Products

FREE Hewitt-Robins, Inc.—Types of silicone rubbers, advantages, uses, physical properties, and specific products made by the company are found in 12-page illustrated Bulletin S901a. Among its many products are sponge and sheet, custom roll coverings, conveyor belting, and extruded tubing and shapes.

For more details circle NED-795 J1 on enclosed inquiry slip

Tungsten Carbide Cutting Tools

FREE Sandvik Steel, Inc.—T-Max disposable insert turning tools, inserts in both ground and ground and honed grades, and a Coromant T-max profile toolholder for copying lathes are among the new products in 50-page illustrated tungsten carbide cutting tool Catalog 610. Specifications for these and many other products are included.

For more details circle NED-796 J1 on enclosed inquiry slip

Compressed Air Cylinders

FREE Pressed Steel Tank Co.—Hackney compressed gas cylinders for oxygen, argon, carbon dioxide, medical gases, propellents, industrial gases, and refrigerants are described, and their specifications given, in 26-page illustrated catalog. ICC regulations are discussed.

For more details circle NED-797 J1 on enclosed inquiry slip

Paper in Product Design

FREE Knowlton Brothers—Uses and advantages of paper as a lightweight, versatile, and economical material in product design are described in the 12-page booklet, "Creative Imagination in the Development of Technical and Industrial Specialty Papers." Covered are papers for gaskets, electronic laminates, facsimile transmission, and for filtering air, oil, and fuels.

For more details circle NED-798 J1 on enclosed inquiry slip

Prefabricated Storage Racks

FREE Acme Steel Co.—"How to Win the Race for Storage Space" relates in 12 pages how the use of prefabricated storage rack materials achieves larger warehousing capacity and higher operating efficiency. Design of modular components is covered and typical uses are shown. Specifications of all units are given.

For more details circle NED-799 J1 on enclosed inquiry slip

Exploring the World of Glass

FREE Lancaster Glass Corp.—"Component," a new quarterly publication of this company, uses a factual approach in presenting detailed technical reports on special interest applications for glass parts. More general information on glass is also included. First issue tells of the use of a new optical system in a low cost slide projector. It will be sent regularly to users of glass and glass products.

For more details circle NED-800 J1 on enclosed inquiry slip

Spring Pins—Their Use & Economy

FREE Standard Pressed Steel Co.—Sixteen different applications for Sel-Lok spring pins are illustrated and described in 8-page Bulletin 2670. Their use results in product economy, and secondary operations are eliminated. Standard stock sizes, insertion and removal forces, and other data are included.

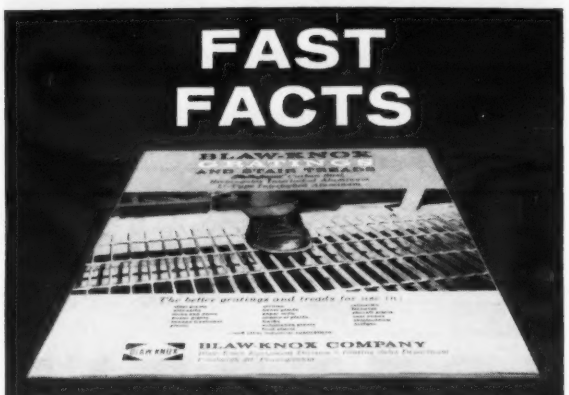
For more details circle NED-801 J1 on enclosed inquiry slip

Molded Packings

FREE Greene, Tweed & Co.—Palmetto molded packings for maintenance of presses, pumps, compressors, and other hydraulic and pneumatic equipment are detailed in 8-page illustrated Catalog MP-361. Selection data and service recommendations are given for various fluids encountered and types of sealing services.

For more details circle NED-802 J1 on enclosed inquiry slip

FAST FACTS



ON BLAW-KNOX GRATING

A NEW DATA FILE for fast information on designs and specifications of Blaw-Knox Grating and Stair Treads

The whole story compacted into eight pages for quick reference ■ New specifications ■ Latest installation methods ■ New fabricating methods

To get your FREE copy, write for Bulletin 2581

Blaw-Knox Equipment Division
Pittsburgh 38, Pennsylvania

BLAW-KNOX GRATING

For more details circle NED-803 J1 on enclosed inquiry slip

DIAPHRAGM Control Valves

Greater flexibility in fluid control

Name your fluid . . . and odds are good we can give you a diaphragm-actuated valve to control it—quickly, simply, economically.

- Reinforced Buna-N molded diaphragm
- Single-seated, double, three-way
- Quick opening, linear, equal percentage inner valves
- Choice of body and trim materials
- Sizes ¼" to 10"
- Pneumatic or hydraulic operation

Write today for complete data in Folder RY-762.

Robertshaw

Robertshaw-Fulton Controls Company

MR CONTROLS

FULTON SYLPHON DIVISION • KNOXVILLE 1, TENN.

For more details circle NED-804 J1 on enclosed inquiry slip

6 STYLES FOR WET, DRY, HOT, OR COLD PROTECTION PLUS

COMFORT

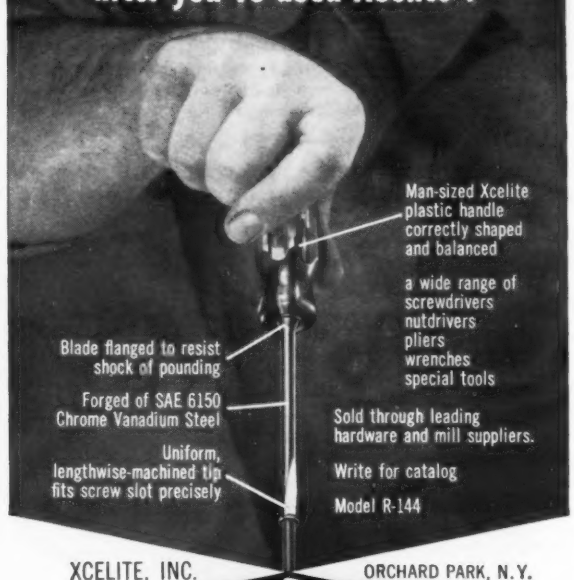
Comfort is an important safety factor when the job involves any combination of heat, cold, chemicals, or abrasion. Pioneer's comfortable linings keep gloves on, hands safe. Liquidproof coatings of neoprene or Pylox™ protect against penetration. See and select from these and 59 other Pioneer glove styles shown in your free copy of the Pioneer Industrial Glove Catalog. Write for yours.

PIONEER

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-805 J1 on enclosed inquiry slip

no other driver "feels" quite right after you've used Xcelite !



XCELITE, INC. ORCHARD PARK, N.Y.

XCELITE Canada: Charles W. Pointon, Ltd., Toronto, Ont.

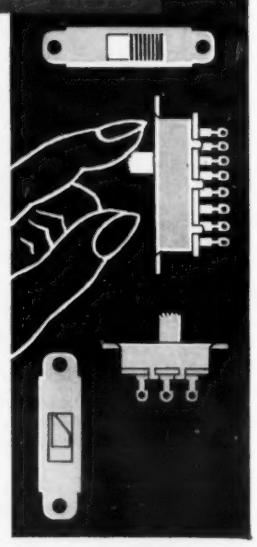
For more details circle NED-806 J1 on enclosed inquiry slip

STACKPOLE S-L-I-D-E SWITCHES

FOR THE Modern TOUCH

Inexpensive . . . easy to use . . . these tiny, dependable switches bring new operating convenience and sales appeal to modern electrical products. They're available in over 15 basic types—the most complete line — with ratings and features to match your requirements.

- ½- to 6-amp. U.L. Ratings
- 9 Attractive Knob Colors
- 1 to 4 Positions
- 1 to 3 Poles
- Maintained or Momentary Contact
- Pushbutton-operated Types
- Lug or Printed Wiring Terminals

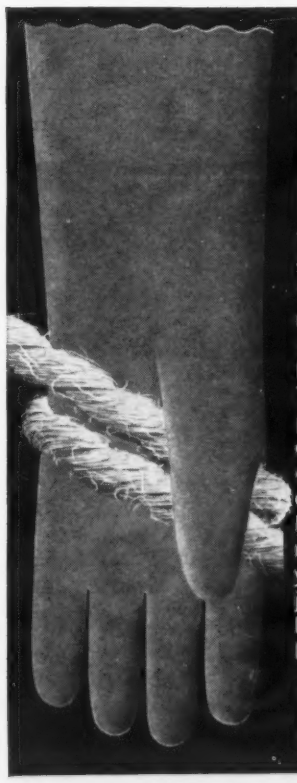


low cost SNAP SWITCHES

Sturdy, low-cost snap action switches for pushbutton assemblies, record players, etc. 1-6 amp U.L.I. ratings.

For Details, write, *Electronic Components Division*
STACKPOLE CARBON CO., St. Marys, Pa.

For more details circle NED-807 J1 on enclosed inquiry slip



27 STYLES FOR MORE HOURS OF BUILT-IN RESISTANCE TO

ABRASION

The toughness and flexibility of Pioneer "Stanflex" and "Pacemaker" coated, liquid-proof gloves are blended for the job. That means more wear plus more comfort, equalling more efficiency per worker. You can easily select the Pioneer glove with the right combination for your heavy-duty jobs: just send for the Pioneer Glove Selector. It's free and easy to use.

PIONEER

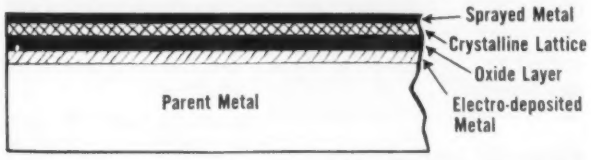
The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-808 J1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

LUBRICATING SURFACE COATING is integral part of metal surface

Chemical conversion of a milli-inch bearing part surface depth to a multimetal alloy with lubricating properties makes possible smooth functioning of mechani-



cal assemblies in many types of equipment. Insensitive to high loading at extreme temperatures, the lubricating layer rapidly dissipates surface heat from the pressure contact areas. It clings tenaciously to the base metal and is compatible with most chemicals, oils, gases, and metals. Hi-T Lube for the −100 to 1000° F range, Mach II for up to 1500° F, and Mach III for higher temperatures have long life under extreme sliding and rolling friction. • **General Magnaplate Corp.**, 331 Main St., Belleville, N. J.

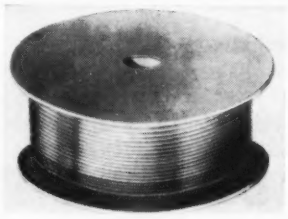
For more details circle NED-809 J1 on enclosed inquiry slip

LIQUID ROOF TREATMENT reinforced with glass fiber, bristles

A tough, uniform, elastic coating is formed by Liqui-Mat liquid roof treatment which is a blend of asphalt emulsion, glass fibers, and rough, curly bristles. Asphalt and fibers interlock to form a tough protective blanket. Product leaves no seam and will not crease or check. Hard-to-get-at places, valleys, and irregular surfaces are easily coated. • **Tremco Mfg. Co.**, 10701 Shaker Blvd., Cleveland 4, Ohio.

For more details circle NED-810 J1 on enclosed inquiry slip

COPPER CAPILLARY TUBING furnished on disposable reels



High uniformity and controlled grain size characteristics of this copper capillary tubing are produced by annealing in a vacuum furnace. Following the drawing process, bore is rinsed with a solvent to remove all residue, oxide, scale, and drawing lubricant. Annealing vaporizes the last traces of solvent. Tubing is made in ASTM B68 and B75 alloys in 0.031 to 0.500-in. OD, and wall thicknesses from 0.004 to 0.040 in. It is furnished on level-wound disposable reels in coils up to 1000 ft and in straight lengths from ¼ in. to 15 ft. Tolerance range is within 0.0005 in. • **Avins Industrial Products Corp.**, 50 Broadway, New York 4, N. Y.

For more details circle NED-811 J1 on enclosed inquiry slip

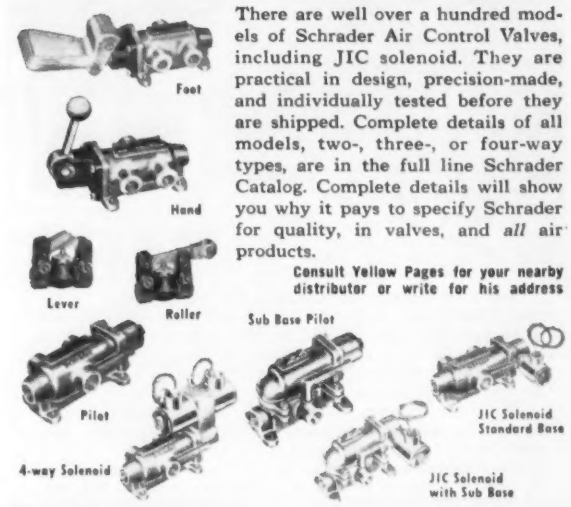
PLASTIC SHEET MATERIAL lining type resists corrosion

Tanks, ducts, and other equipment made of steel, wood, or concrete can be lined with Ry-O-Line, a flexible and elastic plastic sheet material. It resists corrosive attack of many alkalis and acids, withstands abrasion and erosion, and has a polished surface that facilitates solution flow. Joints between lining sections are hot-gas welded. Easily applied and maintained, it is supplied in 3/32, ⅛, and 3/16-in. thicknesses in black and white. • **Joseph T. Ryerson & Son, Inc.**, Box 8000-A, Chicago 80, Ill.

For more details circle NED-812 J1 on enclosed inquiry slip

NAME THE AIR CONTROL VALVE YOU NEED...

SCHRADER MAKES IT ...BUILDS IN QUALITY



There are well over a hundred models of Schrader Air Control Valves, including JIC solenoid. They are practical in design, precision-made, and individually tested before they are shipped. Complete details of all models, two-, three-, or four-way types, are in the full line Schrader Catalog. Complete details will show you why it pays to specify Schrader for quality, in valves, and *all* air products.

Consult Yellow Pages for your nearby distributor or write for his address

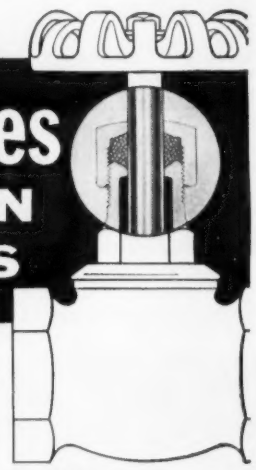
Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.

QUALITY AIR CONTROL PRODUCTS

For more details circle NED-813 J1 on enclosed inquiry slip

Control air and hard-to-hold fluids...



O-B Valves with TEFLON PACKINGS

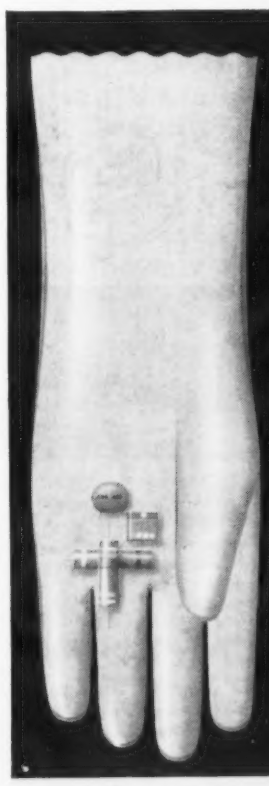
O-B BRONZE VALVES—first to use Teflon-impregnated asbestos-base packings throughout the line—withstand hard use. Their Teflon packing is tough—impervious to damage by all normal influences—smooth-surfaced for frictionless operation—and assures a tight seal on hard-to-handle gases and liquids. Write for latest catalog information.

OHIO BRASS COMPANY
Mansfield, Ohio

Ask your distributor for the valve in the orange-and-black box

10143-V

For more details circle NED-814 J1 on enclosed inquiry slip



8 STYLES FOR DEPENDABLE SHEERNESS IN

PRODUCT CARE

When the product needs protection and the job requires dexterity, Pioneer blends sheerness with wearability in just the right degree. One of the 8 Pioneer styles of Nimble Fingers™ or Sheergrip™ gloves in latex, neoprene or Pylox™ is designed for **your** job. Selection is easiest from the Pioneer Industrial Glove Wall Chart, covering all 65 glove styles. Write for your free copy.

PIONEER

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-815 J1 on enclosed inquiry slip

Don't let automation troubles get you down! . . . use our New Cycl-Flex for TIME CONTROL functions. Should your automatic controls fail for any reason, you can trace your trouble by plugging-in a spare timer. Movement of the TIME pointer indicates whether trouble is in the input or the output circuits.

Write for Bulletin 125 or call your local Eagle Representative. He's listed in Sweet's Product Design File, Section 7d, or in Thomas Register.

SPECIFICATIONS • 10 sec. to 60 hr. dial • 2 instantaneous switches • 2 delayed switches • 12 terminals • Resets in 1/3 sec. Mounts in 3 1/8" dia. hole

EAGLE SIGNAL COMPANY • Moline, Illinois
INDUSTRIAL DIVISION
A DIVISION OF THE GAMEWELL COMPANY, AN E. W. BLISS COMPANY SUBSIDIARY

For more details circle **NED-816 J1** on enclosed inquiry slip

Mid-western glass plant conveys air filters through assembly, shipping and boxing operations on Wendway.

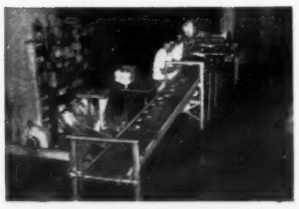
WENDWAY CONVEYS *Anything*

Wendway easily adapts and installs with existing equipment to speed processing and eliminate handling.

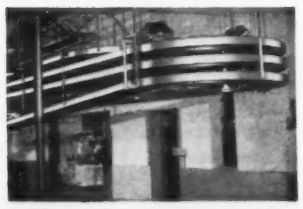
. . . ANYWHERE!

● If you move anything—product, carton, package, bag or assembly—from one machine to another . . . one room to another, you profit by installing a Wendway Light Product Conveying System. And no matter how you move those products now, Wendway can do it better. Faster, safer and more economically, too!

Because . . . Wendway is the most versatile, powered conveyor ever offered to industry. Readily available in a variety of standardized linked rod, belt widths on straight sections, curves, switches, multiple tiers—any combination you require to convey anything, anywhere.



Short, single tier units save storage space, equipment and man hours. Installations may be portable if desired.



Ceiling-mounted Wendway saves valuable floor space. Excellent for cooling or drying operations.

Wendway Slat-Type Conveyors—for Heavier, More Difficult Applications

Developed to meet the need for a highly dependable, extremely versatile, adaptable system with greatly increased carrying capacity (70 lbs. per lineal foot). Available in 24", 30" and 36" standard widths in powered or straight sections. Larger widths, special order.

Above: Close up of powered curve shows how individual slats smoothly negotiate curve without variation in spacing. Products ride smooth, safe, quiet.

Above: This photo illustrates the rugged, clean lined simplicity of the Wendway slat-type powered conveyor so popular for heavy duty applications.

WRITE TODAY . . . for additional information, specifications on a Wendway System to match your requirements. Recommendations without obligation.

UNION STEEL PRODUCTS CO.
Industrial Conveyor Division
ALBION, MICHIGAN

For more details circle **NED-817 J1** on enclosed inquiry slip

NEW LITERATURE and CATALOGS

High Temperature, High Strength Alloys

FREE Allegheny Ludlum Steel Corp.—28 pages of technical data and application guidance on high temperature, high strength alloys for use in aircraft, gas turbine, missile, and other applications involving corrosion are contained in booklet entitled "High Temperature Alloys." The families of alloys are classified into iron base, nickel base, iron-nickel base, cobalt base, and cobalt-chromium-iron-nickel types. Included are charts, test data, machining information, and test procedures.

For more details circle **NED-818 J1** on enclosed inquiry slip

Versatile 3-Wheel Vehicles

FREE Outboard Marine Corp., Cushman Motors Div.—"Twice the Power for Cushman Trucksters" is title of 8-page brochure which depicts the advantages offered by the new single and twin cylinder Super Husky aluminum engines in a wide variety of 3-wheel utility vehicles for inplant hauling, personnel transport, and delivery. Electric-powered Trucksters are also described.

For more details circle **NED-819 J1** on enclosed inquiry slip

Hose Couplings & Connectors

Dimensions, specifications, application and engineering data, and other information on a complete line of industrial and automotive hose, couplings, union adapters, and connectors are contained in 12-page catalog. It is available only by writing on letterhead to **American Coupling Corp.**, 31739 Mound Rd., Warren, Mich.

For more details circle **NED-820 J1** on enclosed inquiry slip

Package Tying Machine

FREE B. H. Bunn Co.—How to operate Bunn package tying machines and short cuts to maintenance are contained in 20-page "Maintenance Manual and Parts Catalog." How to make one-way wraps or cross ties and single, double or triple wraps is explained, as well as how to obtain a perfect knot.

For more details circle **NED-821 J1** on enclosed inquiry slip

Materials Handling Equipment

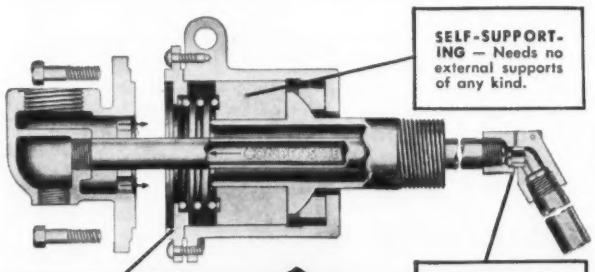
FREE Clark Equipment Co., Industrial Truck Div.—Divided into 12 sections by product lines, 20-page Bulletin SP 4070 covers line of Clark fork trucks, powered hand trucks, straddle carrier, towing tractors, attachments, and container handling equipment. Capacities for units shown range up to 70,000 lb.

For more details circle **NED-822 J1** on enclosed inquiry slip

Tracing Technique for Machining

FREE Mimik Tracers Inc.—"Your Guide to Tracing by the Mimik Method" is the title of a 10-page folder which explains the flexibility and versatility of this method. Attachments are described for lathes, planers, shapers, turning machines, and milling machines.

For more details circle **NED-823 J1** on enclosed inquiry slip



Johnson Rotary Joint with SYPHON ELBOW

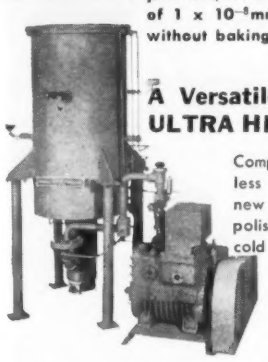
Johnson Joints represent the best way industry has yet found to get steam or liquids into rotating rolls and cylinders. They are completely packless, need no lubrication or adjustment. The Type SBP shown gets steam in, condensate out, through the same head. Other types available for through flow service, in sizes to meet all operating needs. ***WRITE FOR COMPLETE INFORMATION.***

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

For more details circle **NED-824 J1** on enclosed inquiry slip

Ultra High VACUUM PUMPING SYSTEM

TYPE 1450 employs only the newest proven technology and components. In design, selected materials, and precise workmanship it offers a practical, *ultra high* vacuum system for pressures of 1 x 10^{-8}mm Hg., or lower, in a few hours, without baking or metallic gasketing.



Shop View of Type 1450 showing diffusion and mechanical pumps.

TYPE 1450
A Versatile, Practical, Inexpensive ULTRA HIGH VACUUM FACILITY

Completely factory assembled, this valveless system has double-pumped O-rings; new high speed 6" diffusion pump; large, polished, stainless steel liquid nitrogen cold trap in bottom half of chamber, plus an effective anti-migration barrier.

Optional Items: baking equipment for 250°C. to lower ultimate pressure; feed-throughs for instrumentation, power, and cover-supported pay-load; internal heating and cooling devices; automatic liquid nitrogen level control device.

OTHER ADVANTAGES:
Unobstructed Work Area — 22" x 24" with vacuum instrumentation.
Suitable for Prolonged Tests **Best Available Proven Components**
High Pumping Speed

Write for Descriptive Brochure or complete quotation.

GENERAL VACUUM CORPORATION
81 HICKS AVENUE, MEDFORD 55, MASSACHUSETTS EXport 5-8100

For more details circle **NED-825 J1** on enclosed inquiry slip

***Alnor*® DEW-POINTER**

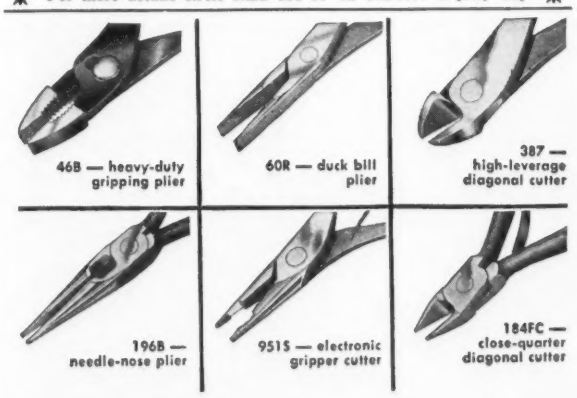
the best way to make a fast, accurate determination of the dew point of gas atmospheres.

- Check the carbon potential in heat treating furnaces almost instantly at any time during the process.
- Registers the dew point in air used for drying operations.
- Simple to operate, fast, precise

Complete information in Dewpointer bulletin No. 2051

ALNOR INSTRUMENT CO.
Division of
Illinois Testing Laboratories, Inc.
Rm. 529, 420 N. LaSalle St., Chicago 10, Ill.

For more details circle **NED-826 J1** on enclosed inquiry slip



CHOOSE FROM OVER 60 *Snap-on* PLIERS AND CUTTERS

Top-quality SNAP-ON pliers and cutters are available in sizes and styles to fit every application from heavy-duty lineman work to precise, intricate, electronic assembly.

The SNAP-ON tool specialist in your area will be glad to discuss your needs. Write for new 128-page catalog and address of nearest branch.

FOR ALL INDUSTRY
SNAP-ON TOOLS
8110-I 28th Avenue • Kenosha, Wisconsin

For more details circle **NED-827 J1** on enclosed inquiry slip

MODERN MOVING METHODS pay off!

Use 2 shopmen to move a machine in jig-time. Spot 4 rollers under heavy equipment and with aid of motive power — move, turn & back machine in tight quarters. Caterpillar chain track rollers turn easily under peak loads. Heavy duty thrust bearings built into roller units.

WE MAKE TWO DESIGNS

"EXPRESS" & "FLAT-TOP"

Write or Phone For Price & Rush Delivery of HILMAN Rollers.

— BUY AMERICAN —

HILMAN EQUIPMENT COMPANY
506 Baltimore Blvd., Sea Girt, N. J. Phone: Gibson 9-9296

▲ For more details circle **NED-828 J1** on enclosed inquiry slip ▲

APCO TORQUE TOOLS TO MEET EVERY REQUIREMENT

Apco Mossberg manufactures over 75 standard styles of torque tools ranging from an inch gram to 2000 foot pounds. In addition, they build many special tools for specific applications.

Every Apco torque tool is manufactured to rigid specifications to assure you the best available. They meet government standards, and are built to withstand 50,000 flexes without adjustment.

The Apco Mossberg Catalog of Torque Tools describes all styles, giving full information as to capacity, sizes and price. Write for your copy now.

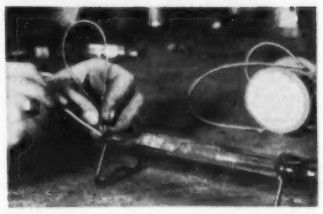
- Special Purpose Wrenches
- Original Equipment Wrenches
- Torque Tools

APCO MOSSBERG COMPANY
161 Lamb Street, Attleboro, Mass.

▲ For more details circle **NED-829 J1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

MULTIALLOY SOLDER FLUX
resists heat, corrosion, fatigue



Metals which normally resist the action of solder and flux can be joined with Nika flux and No. 40 multialloy solder. This combination works on difficult-to-join metals for deep surface penetration, creates a strong bond, and gives good tensile strength when used on such common metals as stainless steel, copper, brass, and steel. It has a good sheen, can be worked with a machinist scraper, and is resistant to corrosion, heat, impact, and fatigue. Aluminum can be soldered with Nika 40 by using Asmc liquid flux. Price of solder is $2.50 per lb; flux is $5 for six 4-oz bottles or $7.50 per gallon. • **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

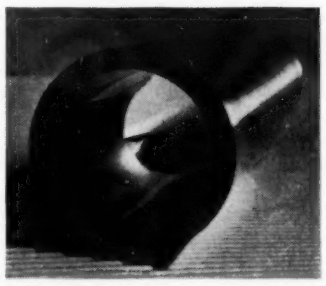
▲ For more details circle **NED-831 J1** on enclosed inquiry slip ▲

ALGAE & FUNGUS INHIBITOR
for cooling towers, air conditioning

Usable in nonpotable water in cooling towers, air conditioning systems, ammonia condensers, and industrial water spray ponds, Formula D-130 kills formed growth and prevents new growth of algae and fungus. This chlorinated phenolic compound is mixed in whatever strength is required for the conditions. It is compatible with water treatment chemicals and is noncorrosive. • **Bird-Archer Co.**, 4337 North American St., Philadelphia 40, Pa.

▲ For more details circle **NED-832 J1** on enclosed inquiry slip ▲

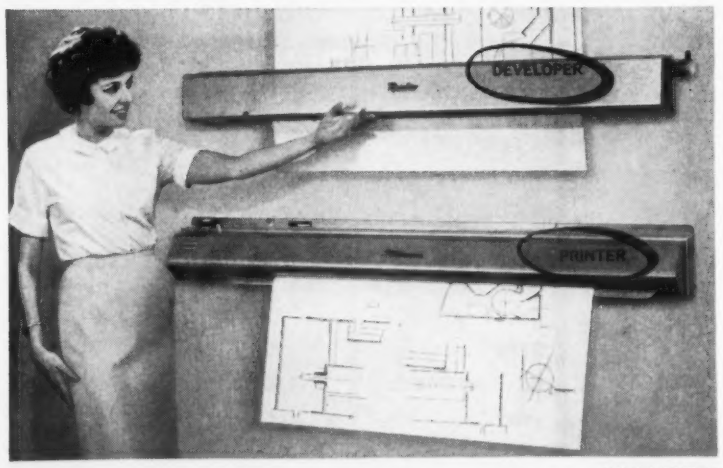
RIGID EPOXY PIPE
in diameters from 1½ to 12 in.



Rigid epoxy used in making Resistochem Pipe E-21 is a thermosetting resin reinforced with a nonwicking, inert filler and is fabricated by a process which assures a glass-smooth bore and uniform wall thickness. Pipe is made in 10-ft lengths, in diameters from 1½ to 12 in. Chemical resistance of pipe can be varied to meet a range of corrosion problems, and physical properties can be similarly altered to meet the needs of electrical, communications, oil, textile, and food industry applications. Made with standard pipe threads, pipe can be used with most makes of standard pipe fittings. • **Resisto Chemical, Inc.**, Box 1945, Wilmington 99, Del.

▲ For more details circle **NED-833 J1** on enclosed inquiry slip ▲

The PERFECT PAIR
for making faster whiteprints in your own office



Rotolite EXPEEDITER

The least expensive whiteprinter in the world and prices include standard tube-type developer. Finger tip speed control, dry paper-vapor developer. Fastest diazo lamp on the market. Prices start at $129.50.

Rotolite THERMOMATIC

A new, continuous ammonia developer. It's heated! The first low cost developer to give true black-line, as well as blue and sepia. Heat develops faster, gives better quality and more even development. One trouble free filling per day. No clogging or leading. No venting.

This is our NEW Automatic Developer-The Rotolite Thermomatic-WITH HEAT.

FOR FAST REPLY MAIL COUPON DIRECT TO:

ROTOLITE SALES CORPORATION, Stirling, N. J.
Phone Millington 7-1040
Please send literature on ☐ Rotolite Expeediter
☐ Rotolite Automatic Developer
Name _____
Concern _____
Address _____ City _____ State _____
Code # C-9

▲ For more details circle **NED-830 J1** on enclosed inquiry slip ▲

No. 1 VALUE

Hammond WET 6" CARBIDE GRINDER

These outstanding features are exclusive with the Hammond 6" Wet Carbide Grinder:

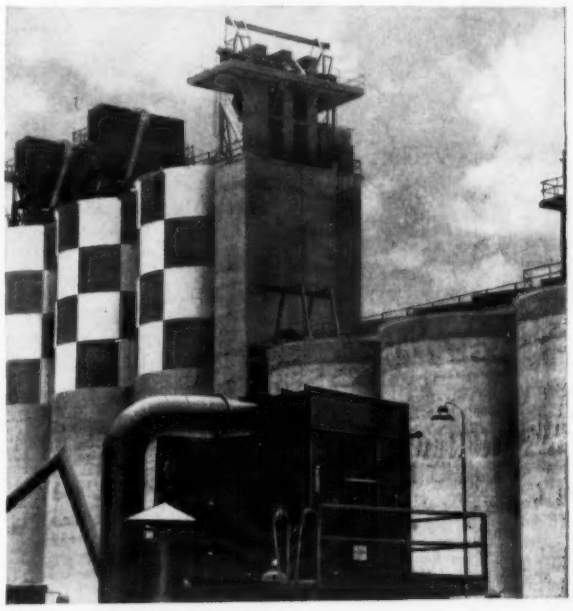
- You're "Dry" when you grind "Wet". No Spray — No Splash guards, pans and spouts keep operator and floor dry.
- Safety Cup Disc fills cup of a silicon wheel which prevents hand injuries and dropping tool into the cup of the wheel.
- Screw Feed Tables make table adjustment easy and protect against wheel damage.

For those who prefer to grind dry, the Model D-6 Dry is available. The trend, however, is to the Wet Model WD-6 with which the dust problem is eliminated and the advantages of wet grinding enjoyed —and at the nominal price of $685, complete as shown less wheels.

Write for catalog showing America's most complete line of carbide tool grinders.

Hammond Machinery Builders INC
1623 DOUGLAS AVENUE • KALAMAZOO, MICHIGAN

▲ For more details circle **NED-834 J1** on enclosed inquiry slip ▲



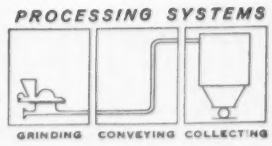
Performing a TOP JOB... The MIKRO-PULSAIRE DUST COLLECTOR

Installed at the Hawaiian Cement Company's new plant at Barber's Point, Oahu, you'll find a total of nineteen MIKRO-PULSAIRE Dust Collectors, four of which are pictured above.

Because it has no moving parts . . . internally or in the gas stream . . . the MIKRO-PULSAIRE has proved ideally suited to handling highly abrasive materials such as cement. Other features to be considered are its record of 99.9% *plus* recovery, and high air-to-cloth filter ratio. Our Hawaiian installation provides a total filtering capacity of 329,928 cfm. Whatever your requirements, the MIKRO-PULSAIRE can deliver a top job for you, economically and with maximum dependability.

MIKRO-Products
PULVERIZING MACHINERY COMPANY
28 Chatham Rd., Summit, N. J.
A Division of American-Marietta Company

PROCESSING SYSTEMS



Represented throughout the world in sales, service and manufacturing facilities.

▲ For more details circle **NED-835 J1** on enclosed inquiry slip ▲

WHEREVER SOMETHING STICKS

Modern Packaging Engineers Use

IMS

SILICONE FLUID SPRAY

WHEREVER ANYTHING STICKS TO METAL SURFACES—ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING

And your sticking problems are over!

The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC
CLEAN — LONG LASTING

Handy Self Dispensing Can
Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

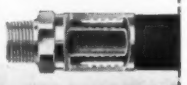
INJECTION MOLDERS SUPPLY CO.
17601 So. Miles Rd. Cleveland 28, O.

For more details circle NED-836 J1 on enclosed inquiry slip

"FIRST" for YEARS IN OEM

Now "FIRST" IN Replacements

ANCHOR PRESSED-ON HOSE ASSEMBLIES



ANCHOR REUSABLE COUPLINGS

ANCHOR FITTINGS

ANCHOR Pressed-On Hydraulic Hose Assemblies, Reusable Couplings, Hose and Fittings

Anchor *replacement* Pressed-On Hydraulic Hose Assemblies, Reusable Couplings, Hose and Fittings are *one and the same* as the already comprehensive Anchor line . . . first and foremost with original equipment manufacturers today . . . and for over 20 years.

Ask for and install Anchor for *all* your *replacement* use.

Your nearest Anchor distributor will serve you quickly . . . whatever your needs for Anchor hydraulic component replacements.

ANCHOR Coupling Co. Inc.
Box 111, Dept. II, Libertyville, Ill.
Branch Plants: Dallas, Tex., Plymouth, Mich.

Andy Anchor says: "Ask your Anchor distributor for descriptive literature . . . or write direct."

For more details circle NED-837 J1 on enclosed inquiry slip

NEW

paging plus private 2-way intercom

New dual-function Executone units keep every man on your staff in instant contact . . . let you locate and talk with people anywhere in your plant or offices, or on the grounds . . . even in high-noise areas.

Executone Dept. F-8
415 Lexington Ave., N. Y. 17, N. Y.

Please send detailed information on paging and intercom for

☐ low-noise areas Name_____
☐ hazardous areas Company_____
☐ high-noise areas Address_____
☐ outdoor areas City_____ Zone____ State_____

For more details circle NED-838 J1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Close-Coupled Pumps

FREE New York Air Brake Co., Aurora Pump Div.—Made in capacities up to 1600 gpm for heads to 330 ft and temperatures to 250° F, Type GBH close-coupled end-suction centrifugal pumps are adaptable for a wide range of fluid handling service. Complete performance data and design details are given in 8-page Bulletin 108.

For more details circle NED-839 J1 on enclosed inquiry slip

Electric Soldering Irons

FREE Hexacon Electric Co.—A total of 80 models of electric soldering irons in seven distinct types and rated from 20 to 700 w is listed in 4-page Form 111. Tips range in diameter from 1/8 to 1 3/4 in. Among items shown are new long-life tips, instant solder guns, 3-wire cord and plug assemblies, pencil and pin-point units, high-powered and battery types, and line of screw tip and plug tip irons.

For more details circle NED-840 J1 on enclosed inquiry slip

How To Handle Corrosive Fumes?

FREE Industrial Plastic Fabricators, Inc.—Answers to the above question are given in 36-page Catalog F which describes and gives performance and design data on polyvinyl-chroride fans, air washers, and exhaust systems. Chemical resistance data and properties of PVC are also presented.

For more details circle NED-841 J1 on enclosed inquiry slip

Air & Steam Horns

FREE Frederic B. Stevens, Inc., Clark-Cooper Div.—The many industrial applications of air and steam horns and accessories are pointed up in 16-page brochure. A section explains how to determine exactly the amount and type of horns needed to cover any given area.

For more details circle NED-842 J1 on enclosed inquiry slip

Small Electric Motors

FREE Kingston - Conley, Inc. — 6-page Bulletin L-3313A is descriptive of a full line of 56-frame motors rated 1/4 to 2 hp in open dripproof or totally enclosed, single phase capacitor-start or three phase squirrel-cage types. They are made in all standard voltages and frequencies with a variety of mountings and modifications.

For more details circle NED-843 J1 on enclosed inquiry slip

Planning Effective Advertising

FREE Ward William & Co.—"Viewpoint" is title of unusual brochure intended to help a company plan effective, well-directed advertising and publicity. It considers corporate image, product capability, communicating product information, programmed press relation, direct mail advertising, space advertising, and management aids. It describes the capabilities and facilities of this Union, N. J. advertising agency.

For more details circle NED-844 J1 on enclosed inquiry slip

UP-DATE YOURSELF ON AUTOMATIC CONTROLS

LUMENITE BULLETINS DESCRIBE LATEST ADVANCES

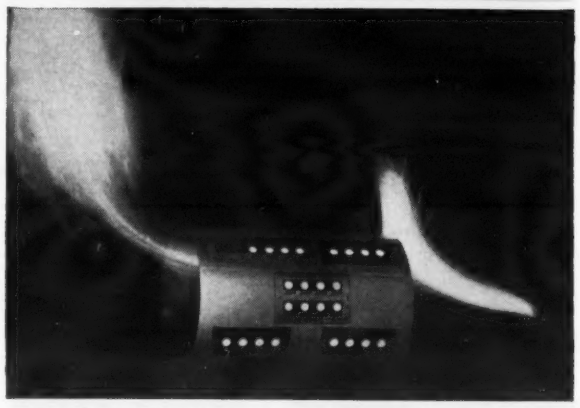
Check the switches and controls you are interested in, return this ad to us, and we'll be happy to send you Bulletins describing the latest advances in design and construction — technically informative Bulletins including load capacities, installation diagrams, etc. No obligation. Do it today.

☐ MILK & FOOD LEVEL
☐ LIQUID LEVEL
☐ NON-CONDUCTIVE LIQUID
☐ BOILER LEVEL
☐ ICE THICKNESS
☐ MOTORIZED SANITARY VALVES
☐ TIME SWITCHES
☐ PROGRAM CLOCKS
☐ CYCLE REPEATERS
☐ INTERVAL TIMERS
☐ AUTOMATIC RESET TIMERS
☐ TIME DELAY TIMERS
☐ PHOTO-ELECTRIC RELAYS — COUNTERS, ETC.
☐ PROXIMITY RELAYS — ELECTRONIC MERCURY RELAYS
☐ AUTOMATIC LAWN SPRINKLER CONTROLS

NED

LUMENITE ELECTRONIC CO.
ENGINEERS • DESIGNERS • MANUFACTURERS
407 South Dearborn Street Chicago 5, Illinois

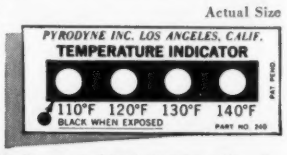
For more details circle NED-845 J1 on enclosed inquiry slip



TEMP-PLATE® TEMPERATURE INDICATING STICKER

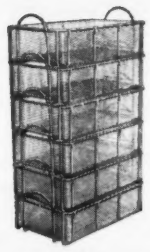
Temp-Plates detect overheating of electronic components, vital airborne parts, industrial equipment, in a positive, direct manner. Simple, easy to use, irreversible, Temp-Plate is the thin little tab that sticks to the component, turns black when the temperature reaches any desired value between 100° and 1100°F. Impervious to ambient atmosphere and production line handling, Temp-Plate is accurate to ±1%, provides for absolute indication of heat damage. Write now for literature.

Actual Size



TEMP-PLATE/Pyrodyne, Inc.
11973 San Vicente Blvd.
Los Angeles 49, California

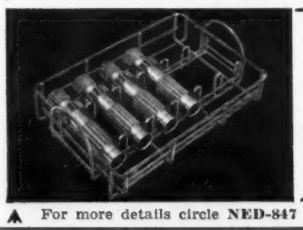
For more details circle NED-846 J1 on enclosed inquiry slip



PUT PARTS HANDLING ON A LOW COST BASIS

EEZY STAK® BASKETS

You can process parts for less money than it's costing you now by using Eezy-Stak parts handling baskets! Eezy-Staks have the exclusive patented "Inter-Lok" handles for convenient, compact stacking and storage. Parts handled safely . . . less risk of damage . . . rejects reduced. *Two types—compartmented baskets for segregated parts handling, open mesh type for bulk handling.* May be zinc-plated, plastic or neoprene-coated.



WRITE TODAY FOR BULLETIN B-57

Wire and Iron Products Inc.
1724 Sixteenth Street
Detroit 16, Michigan

For more details circle NED-847 J1 on enclosed inquiry slip

Leitz New SIMPLEX TOOLMAKERS MICROSCOPE

YOU GET A COMPLETE TOOLMAKER MICROSCOPE of 2" x 2" range in .0001" at a basic price of $1070. Compare this outstanding value.

Request catalog 81/155

OPTO-METRIC TOOLS, INC.
137 NE VARICK STREET • NEW YORK 13, N.Y.

For more details circle NED-848 J1 on enclosed inquiry slip

CORROSION? WEAR?

End pump problems with ADVANCED

Deming End Suction Centrifugal Pump. 1" to 6" discharge size. 10 G.P.M. to 2400 G.P.M. Heads to 240 feet. ¼ H.P. to 25 H.P. Most sizes right or left hand rotation.

DEMING CENTRIFUGALS

Deming advance design features show you why Deming Pumps handle toughest jobs with ease—

■ Liquid ends range from tough cast iron to special corrosion-resistant alloys.

■ 4-piece liquid ends get rigid, leak-stopping support — from ruggedly designed power end and 2-ball bearing suspension.

■ You can regulate capacity and head—because of Deming axial adjustment.

■ A Deming is the simplest to service.

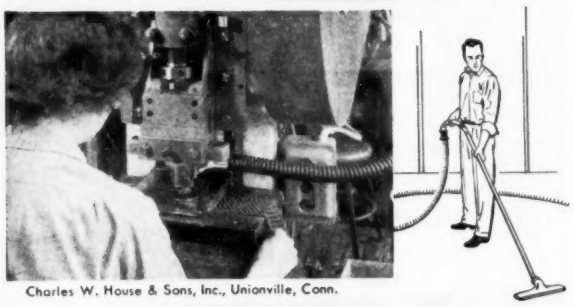
Send your problem to Deming—"Pump Information Headquarters."

THE DEMING CO.
906 Broadway • Salem, Ohio

Write for Bulletin 4011-E

For more details circle NED-849 J1 on enclosed inquiry slip

Here... a SPENCER VACUUM SYSTEM DOES DOUBLE DUTY



Charles W. House & Sons, Inc., Unionville, Conn.

Here, dual use of a single, **built-in** vacuum system saves money and improves efficiency by:
SPEEDING PRODUCTION—As felt washers are stamped out, vacuum picks them up, cleans them as they are conveyed to containers.
SIMPLIFYING MAINTENANCE—Cleaning is quick and thorough, there's no recirculation of dust or lint.
Write for information on how Spencer vacuum can solve **your** production, conveying or maintenance problem.

Request Catalogs No. 155B and No. 143-B

The SPENCER TURBINE COMPANY
HARTFORD 6, CONNECTICUT

For more details circle NED-850 J1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

CLEAR PLASTIC ADHESIVE bonds rubber to metal

Dekophane clear plastic adhesive is waterproof, and its bond is unaffected by moisture. It joins rubber to all types of metal surfaces, maintains its adhesion for long periods, and does not dry out nor become brittle. • **Crystal Essence Corp.**, Box 108, Bound Brook, N. J.

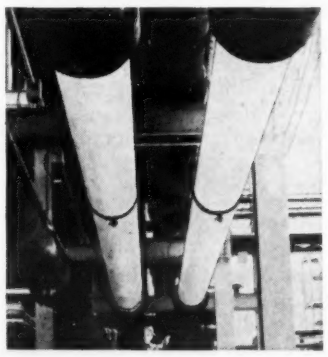
For more details circle NED-852 J1 on enclosed inquiry slip

RECORDING PAPERS for oscillograph instrumentation

Fourteen types of recording papers for oscillograph and instrumentation use comprise the Ansco-Grant line. Most recording applications can be handled on Linatract A-4 or A-5 papers which have wide latitude of speed. However, any requirement in emulsion speed, magazine configuration, footage per loading, dimensional stability, or rapid processing can be met. Linatrace A-1 Doublength paper is only 0.002 in. thick. Type A-7 is for quick processing and is waterproof with high dimensional stability. A-9 is also waterproof and is of card-stock thickness. Line trace velocities up to 10,000 ips can be handled. Oscillograph traces can be copied directly on Autoprint Thin, a high contrast, positive-to-positive, thin, rag paper that can be exposed on diazo printers. • **General Aniline & Film Corp.**, Ansco Div., 35 Charles St., Binghamton, N. Y.

For more details circle NED-853 J1 on enclosed inquiry slip

PIPE JACKETING protects outdoor insulations



Consisting of laminated aluminum foil, glass reinforcing strands, and Du Pont Tedlar plastic film, bonded with self-extinguishing Pyro-Kure, this pipe jacketing protects outdoor piping and ductwork insulation from weather. It is resistant to flexural failure, remains flexible at temperatures to 355° F, and is impermeable to water vapor. The jacket can be pigmented, given a satin finish, or made transparent. • **American Sisalkraft Co.**, 55 Starkey Ave., Attleboro, Mass.

For more details circle NED-854 J1 on enclosed inquiry slip

871B

Improved FEL-PRO C5-A "HI-TEMP" ANTI-SEIZE THREAD COMPOUND

delivers MORE dollar value at same LOW COST!

All These New Improvements—
NEW • Lower breaking and running torque
NEW • Non-settling, non-hardening, homogenized composition
NEW • Can be used in below freezing weather
NEW • Increased lubricating and sealing qualities
NEW • Prevents rust and corrosion

Now in tubes and cans

FREE TEST SAMPLE PROVES HOW!

You'll save countless man hours and avoid costly replacement of broken studs, bolts, etc., with the protective cushioning action provided by the colloidal copper composition of C5-A. Improved C5-A Lubricates and Seals for fast, easy application and removal. Gives same protective performance even after high-pressure, high-temperature use, up to 1800° F. Can be used on all metals and plastics.

✓ Ends seizing and galling even up to 1800° F.
✓ Reduces wrench torque
✓ Stops needless stud breakage
✓ Permits repeated re-use
✓ Speeds assembly and disassembly
✓ Prevents galling of stainless steel

TRY C5-A NOW...

Manufacturers, refiners, and power producers find C5-A ideal for boilers, face plate studs, etc. *Write for your free test sample today!*

FELT PRODUCTS MFG. CO.
Dept. 68, 7450 N. McCormick Blvd., Skokie, Illinois

For more details circle NED-855 J1 on enclosed inquiry slip

CHECK LIST

- [ ] color code enamels
- [ ] marking enamels
- [ ] ASA machinery gray enamels
- [ ] wrinkle finishes
- [ ] high-heat aluminum
- [ ] zinc chromate primer
- [ ] gray primer-surfacer
- [ ] open gear and wire rope lubricant
- [ ] light oil lubricant
- [ ] penetrating oil
- [ ] dry graphite lubricant
- [ ] all-purpose silicone lubricant
- [ ] clear plastic
- [ ] silicone mold release
- [ ] red insulating varnish-enamel
- [ ] battery terminal protector
- [ ] blue layout fluid
- [ ] layout fluid remover
- [ ] anti-rust spray
- [x] electric motor degreaser
- [ ] engine degreaser
- [ ] Jet-Pak self-powered spray gun

Which of these self-spraying products can you use?

CHECK THE LIST—THEN PHONE YOUR DISTRIBUTOR!

Single brand—single source
ONE CALL—THAT'S ALL!

The first **complete** line of industrial aerosols—your key to "push-button maintenance." Stocked and sold only by industrial distributors to give you quick service! Phone your distributor today for free handbook of 47 different maintenance and production aids in self-spraying containers—the better, faster, safer, cleaner, easier way to do a hundred jobs! Made by the oldest and leading custom-loader of aerosol specialties. If your distributor cannot supply you, write **Industrial Supply Division, Sprayon Products, Inc., 2063 East 65th Street, Cleveland 3, Ohio.**

Sprayon AEROSOLS FOR INDUSTRY

For more details circle NED-856 J1 on enclosed inquiry slip

NEW FINISHING MACHINE FOR HIGH PRODUCTION

- DEBURRING
- EDGE BLENDING
- SURFACE CLEANING
- POLISHING
- BUFFING

5224-M1A Osborn Finishing Machine —increases production... improves quality... reduces cost.

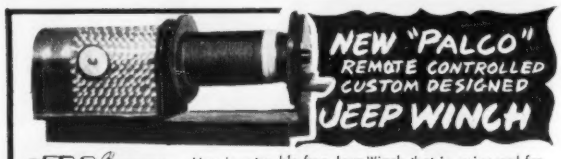
For job shop or continous production runs—this compact, semi-automatic unit is ideal for an extremely wide range of metal finishing operations. Simple design, easy setup, inexpensive fixturing make this two-spindle machine a highly *versatile* tool. Finishing head is self-contained . . . workholder operates at up to 1800 indexes per hour. *The Osborn Manufacturing Company, Dept. N-27, Cleveland 14, Ohio. Phone ENdicott 1-1900.*

Write for new Bulletin 630
Includes detailed performance, operating and application specifications on new Osborn 5224-M1A metal finishing machine.

Metal Finishing Machines . . . and Finishing Methods
Power, Paint and Maintenance Brushes • Foundry Production Machinery

OSBORN

For more details circle NED-851 J1 on enclosed inquiry slip



Here is a trouble free Jeep Winch that is enineered for years of rugged service. . . dozens of uses – towing, dragging, lifting, dumping, etc. Designed to mount behind the front bumper on any Jeep, Pick-up Truck, 4 x 4 or Gypsy. Operates on 6 and 12 volts . . . will lift 3500 lbs. at 12 Volts D.C.. Has Ball bearing motor. Other models of winches and cranes available – Write for complete specifications and prices.

Only 167.50 (CABLE NOT INCLUDED)

NEW HYDRAULIC "HI-LO" PRESSURE PUMPING UNITS

Will deliver total combined volume of both pumps of 21 GPM, at pressures up to 500 PSI, then delivers output of high pressure pump (4 GPM) at up to 3000 PSI. Both the pumps face mounted to 7-1/2 HP, double-end, 220/440, 3-phase, 60 cycle AC motor. Entire pumping unit mounted on 33 gallon reservoir (available without reservoir). Overall size: 35" long x 18½" wide x 18½" high. Other Hi-Lo units available from 1500 PSI to 3000 PSI. Write for details.

785.00 No. DPR-21-3000

A POWER PACKED PAUL BUNYAN OF VICKERS HYDRAULIC MOTORS

2000 PSI intermittent – 3000 PSI continuous

Use for transmission of rotary power or on automatic screw machines, lathes, winches, etc. Piston type. Displaces 2.41 cu. in./rev. Will take 10.5 GPM at 1000 PSI. Max. operating speed 2200 RPM.

Only 175.00

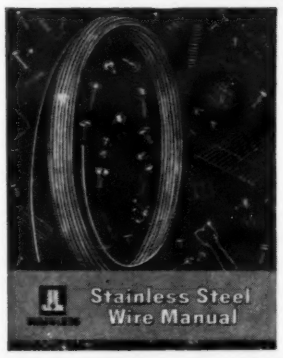
SPECIAL VALUE AIR TANKS ALL STAINLESS STEEL. Has an 18,000 cu. in capacity (77 gallons) 45" long x 24" dia. Ideal for Air or Chemicals. Worth $400.00 – No. J-1 95.00

TO ORDER: Send Money Order or a Check. P.O.'s accepted from well rated D&B firms. 1/2 deposit with all C.O.D.'s. All items sent freight or postage collect.

palley's 2263 EAST VERNON AVE., DEPT. NE-91 LOS ANGELES 58, CALIFORNIA

For more details circle NED-857 J1 on enclosed inquiry slip

New Design Manual



Stainless Steel Wire

Here's a brand new, 20 page manual giving design data on J&L Stainless Steel wire. With it, the design engineer can easily select the best stainless for the requirements of his specific applications.

Here are just a few of the subjects covered:

- MECHANICAL PROPERTIES
- LABORATORY CORROSION DATA
- APPLICATIONS
- STANDARD GAUGES

Send today for your free copy
WRITE TO DEPT. 1575

Jones & Laughlin Steel Corporation
STAINLESS AND STRIP DIVISION
Box 4606, Detroit 34, Michigan

STAINLESS SHEET · STRIP · BAR · WIRE

For more details circle NED-858 J1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Alloy for Heating Elements

FREE Hoskins Mfg. Co.—Properties and performance of Alloy 750, used for heating elements in small appliances and other devices where temperatures do not exceed 2050° F, are covered in 8-page Bulletin 112. Information for designing, fabricating, and welding coiled elements made of this low-growth iron-chromium-aluminum resistance material is also given.

For more details circle NED-860 J1 on enclosed inquiry slip

Air & Hydraulic Cylinders

FREE Flick-Reedy Corp., Miller Fluid Power Div.—All information needed to select Miller's air and hydraulic cylinders by size, thrust, bore, stroke, and mounting is provided in 32-page Bulletin AJH-104S. Data cover the Base-Lok piston rod flange seal; Style 2L rod end; multiple tie rods on 10, 12, and 14-in. bore, 3000-5000 psi hydraulic cylinders; and circular retainers that facilitate field servicing of 7 to 14-in. bore, 3000-5000 psi hydraulic units.

For more details circle NED-861 J1 on enclosed inquiry slip

Flexible Pipe Connectors

FREE Allied Metal Hose Co.—16-page Manual AM-9 is a thorough analysis of flexible pipe connectors, their application, design, and handling. Photos of actual applications, as well as tables, drawings, and series of "do and don't" cartoons, effectively illustrate the manual.

For more details circle NED-862 J1 on enclosed inquiry slip

Vibratory Automation Accessories

FREE Automatic Feeder Co.—Dimensional data relative to such automation accessories as Vibra Pak electric vibrators and Vibra Driv vibratory pedestal drivers are featured in 4-page Catalog 101A. Vibrators keep hard-to-flow materials moving in hoppers, tracks, bins, and chutes. Drivers are used in line track installations, trough feeders, and vibratory feed rails.

For more details circle NED-863 J1 on enclosed inquiry slip

Variable Speed Sheaves

FREE T. B. Wood's Sons Co.—MS and MCS variable-speed sheaves described in 16-page Bulletin 25103 eliminate freezing and sticking from fretting corrosion. Sheaves can run indefinitely at one speed and afford easy adjustment without sticking. MS units are rated 2 to 15 hp; MCS sheaves, 7.5 to 20 hp.

For more details circle NED-864 J1 on enclosed inquiry slip

Machine Tools

FREE Brown & Sharpe Mfg. Co., Machine Tool Div.—20-page condensed Catalog MT 4 presents specifications for the entire line of B&S machine tools, including milling, grinding, automatic and hand screw, and turret drilling machines. It also covers optional accessories for these machines and touches upon other products and services offered by company.

For more details circle NED-865 J1 on enclosed inquiry slip

ELIMINATE "STICK-SLIP"

A mere press of the button gives you coefficients of friction as low as .07! New RULON® SPRAY also features:

- Instant drying
- Non-oily, non-gummy surfaces
- New cleanliness (can't collect dust)
- Thermal stability (−400 to +500°F.)
- Chemical inertness
- Insolubility

Applications unlimited! Lubricates machine parts and assemblies, bearings, belts, gears, conveyors, wood, leather, plastics, etc. Excellent mold release.

Distributor inquiries invited.

for RULON SPRAY data write DIXON

Dixon Corporation, 108 Burnside St., Bristol, R. I.

Dixon offers RULON in rods, tape, sheet, tubing and in molded and machined parts.

For more details circle NED-866 J1 on enclosed inquiry slip

Bright New Star on the Sweeper Horizon
The All-New Wayne STARSWEEP 1054!

Wayne—world's leading name in sweepers—presents the super-rugged, powerful new **STARSWEEP 1054** . . . *the most important advance in Power Sweeping ever made!* This husky, compact, maneuverable, built-to-last beauty has every feature you've ever wanted . . . exclusive *job-engineered* features that make Power Sweeping pay for itself as never before! With its 62" sweeping swath and 16 cubic foot hopper capacity the **1054** is the biggest Power Sweeper made. You sweep the biggest areas—acres outside and miles of aisles inside—with ease and speed. **STARSWEEP'S** exclusive new hydra-mechanical drive provides both *infinitely variable* travel speeds (0-12 MPH) and *constant* broom and vacuum blower speeds for super-efficient sweeping.

Full-floating main and hydraulically driven side brooms adjust automatically to every sweeping condition. 54" expandable main broom can be changed in minutes *without tools.* **STARSWEEP'S** exclusive new Filter-Vac enclosed dust control system with huge 78 square foot filter area provides the ultimate in dust-free operation under all conditions . . . disposable filters are cleaned with the flick of a lever. Convenient automotive controls assure quick, safe, efficient and comfortable operation.

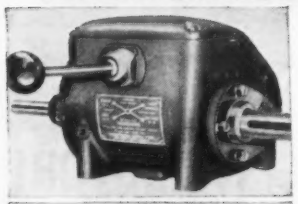
There is so much *more* to tell . . . *more* in sweeping ability, performance, economy, dependability, local parts and service. Get the facts. See and compare. Find out for yourself how the **STARSWEEP 1054** can save you time and money. The full story is yours for the asking. *Write for the new Starsweep brochure today.*

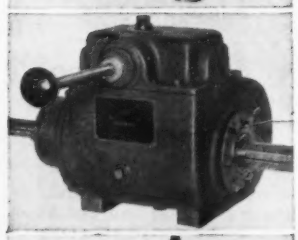
WAYNE

WAYNE MANUFACTURING CO.
main office and plant:
2009 EAST LEXINGTON STREET, POMONA, CALIFORNIA
branch offices:
ATLANTA · CHICAGO · NEWARK

For more details circle NED-867 J1 on enclosed inquiry slip

TRANSMISSIONS *featuring* Electro-Magnetic Control





9000-B (1-10 H. P.)
TORQUE RATING: 1400 pound inches output, 350 pound inches input
HORSEPOWER RATING: 5 H.P., 900 r.p.m. input; 10 H.P., 1800 r.p.m. input
GEAR RATIOS: 1:1—2:1—3.14:1—4:1 Special ratios at extra cost. Maximum Reduction 5.07:1

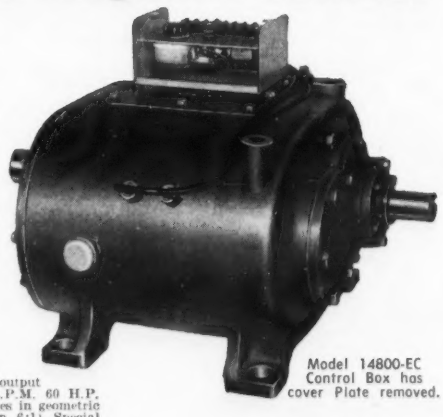
8100-B (10-20 H. P.)
TORQUE RATING: 700 pound inches input, 2800 pound inches output
HORSEPOWER RATING: 10 H.P., 900 r.p.m. input; 20 H.P., 1800 r.p.m. input
GEAR RATIOS: 1:1—2:1—3:1—4:1 Special ratios at extra cost. Maximum Reduction 6.00:1

14800 (left)—Four special speed changes up to limit of case 10:1

14900 (left)—Four speed changes in geometric progression at 1.71 (total reduction of 5.03)

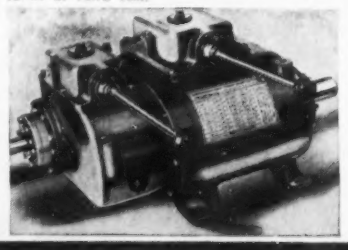
TORQUE RATING: 1400 pound inches input, 7500 pound inches output
HORSEPOWER RATING: 20 H.P., 900 r.p.m. input; 40 H.P., 1800 rpm. input

Transmissions with Electro-Magnetic Clutches provide speed changes and reversing under power, without interrupting power source . . . so equipped are available with two to eight speeds, capacities from 52 to 750 foot pounds and a wide ratio selection (up to 10:1). Manual or automatic controlling of speed changes accomplished with electric switches, tape, cam or other remote control means available. Especially adaptable to automatic machinery where transmission is not accessible to the operator.



Model 14800-EC Control Box has cover Plate removed.

9300 (30-60 H. P.) below
TORQUE RATING: 2100 lb in. input; 12,000 lb. in. output
H.P. RATING: 30 H.P. at 900 R.P.M. 60 H.P. at 1800 R.P.M. Eight Speed Changes in geometric progression of 1.29 (total reduction 6:1) Special ratios at extra cost.



Transmissions both standard and specially engineered for industrial and agricultural machinery, automotive trucks, tractors, refuelers, industrial shovels, cranes, shop and lift trucks, concrete mixers, road builders, diamond drills, machine tools . . .

Send for catalog and complete information

WESTERN TRANSMISSIONS
WESTERN MANUFACTURING CO. — 3400 SCOTTEN AVE. — DETROIT 10, MICHIGAN

For more details circle NED-859 J1 on enclosed inquiry slip

CUT ALL METALS ... fast and easy! with this PORTABLE timesaver BANDSAW

Zip through both ferrous and non-ferrous metals—even tool and stainless steels. Handles 3¼" x 4¼" rectangular stock, ¾" dia. round stock ... well balanced, easy to use ... 6.5 amp. universal motor, blade moves at 240 sfpm. Ask your Porter-Cable distributor or write for folder.

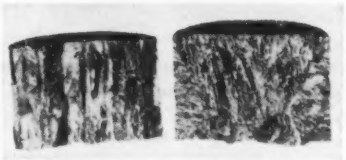
Porter-Cable
another fine product by ROCKWELL

PORTER-CABLE MACHINE COMPANY
N. Lexington Ave., Pittsburgh 8, Pa.

For more details circle NED-868 J1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

HIGH ENERGY MAGNETS
grain oriented material capable of 7.5 million gauss-oersteds



Direction of solidification of crystal formations gives Alnicus magnet material a nominal energy product (BH) of up to 7.5 million gauss-oersteds. Material makes possible considerable reduction in magnet size and allows wide latitude in selecting magnets for both static and dynamic applications. Production process achieves 100 per cent grain orientation throughout casting cross section.

Alnicus magnets are used in compact generators, magnetrons, magnetic separators, loudspeakers, and radar equipment. They may also be used in field shaping devices for focusing and accelerating ions in space propulsion units. Grade USM75, with BH of 7.5 million gauss-oersteds, had residual induction (BR) of 13,900 gauss, and coercive force (HC) of 750 oersteds. Grade USM65 has a BH of 6.5 million, BR of 13,500, and HC of 650.

Both materials weigh 0.265 lb per cu in. and have hard-brittle mechanical properties. Photo shows grain orientation of Alnicus at left compared with Alnico V-DG at right. • **U. S. Magnet & Alloy Corp.**, 266 Glenwood Ave., Bloomfield, N. J.

For more details circle NED-871 J1 on enclosed inquiry slip

WATERLESS HAND CLEANER
removes tar, grease, paint, ink

Lanolin and hexachlorophene in Little Doc Disolvit waterless hand cleaner keep the user's hands smooth and soft, even with repeated use. It has a pleasant odor and can be wiped off with a paper towel. It also rinses off. Ink, tar, asphalt, grease, carbon, cement, paint, oil, and other products are removed quickly. It is offered in a 4½-lb throw-away dispenser-container. An introductory offer of two cans and a wall - mounting dispenser, having a list price of $13.30, is available for a limited time for only $7.95. (Editor's Note: In the description of this hand cleaner in the July '61 issue of NED, we failed to mention this special offer.) • **Schaffner Mfg. Co.**, Disolvit Div., Schaffner Center, Pittsburgh 2, Pa.

For more details circle NED-872 J1 on enclosed inquiry slip

DOUGLAS AIRCRAFT USES TAPMATIC CUTTING FLUID

Tap Life Increased 1200%
Class "3" Fit Consistently Held

When the Torrance Location of Douglas Aircraft was faced with tapping missile metal, they turned to Tapmatic Dual-Action Cutting Fluid, already proved by them in tapping heat-treated 4-31 Stainless Steel. Tapmatic Dual-Action Fluid permitted tapping 20 to 25 holes without seizing or breaking. Tapmatic Cutting Fluid also permits holding size to a consistent class "3" fit. Proof-positive that if you're tapping tough metal or having any tapping trouble, you should get the facts on Tapmatic Dual-Action Cutting Fluids which chill and lubricate.

Two Fluids
1 - For all metal except aluminum
2 - For aluminum

Send for Literature

TAPPING ATTACHMENTS | RELEASING TAP HOLDERS | DRILL SPEEDERS

TAPMATIC CORPORATION
845 West 16th Street • Costa Mesa, California • Liberty 8-3404

For more details circle NED-869 J1 on enclosed inquiry slip

USG® BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.

B-243-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

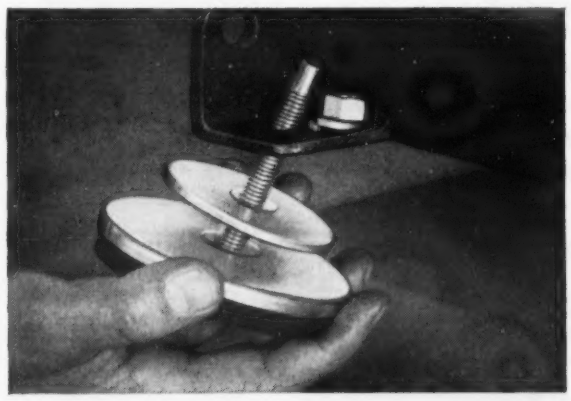
For more details circle NED-873 J1 on enclosed inquiry slip

1. INSTALL MACHINERY FAST
2. LEVEL 3. LICK VIBRATION

NEW LEVEL-RITE SERIES 500

Cut machinery installation time and costs up to 70, 75, even 80% . . . eliminate transmitted vibration up to 85%! That's the money-saving move with Level-Rite Series "500" — latest member of the Unisorb family. No lagging, no cement, no drilling, no "hit or miss" spotting is needed. Unisorb Level-Rite mounting is fast — machines can be moved and relocated quickly and with a minimum of downtime.

Level-Rite Series "500" is a self-contained leveling mount for light and medium duty machine shop tools. It withstands weights up to 750 lbs. Send for literature.



SPECIAL ADVANTAGES: Fast, simplified, precise leveling Free-floating screw post — compensates for uneven floor Safe, sure grip — can be cemented if needed • Lowers noise level — increases worker efficiency • Better machine performance (improved alignment) • Available in many types and thicknesses for all machine types • Money-back trial is yours for the asking.

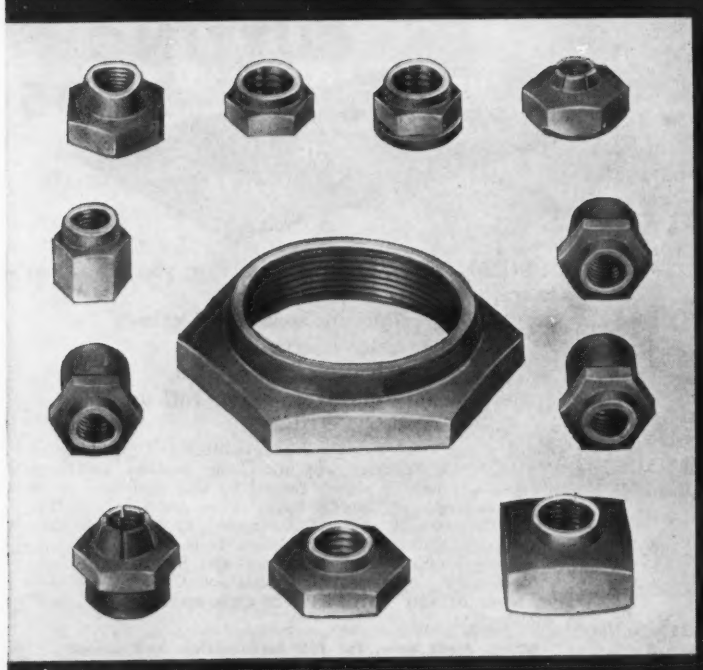
UNISORB

UNISORB 224 SOUTH STREET, BOSTON 11, MASS.
Division of The FELTERS Company, New York, N. Y. • Chicago, Ill. • Detroit, Mich. • Upper Darby, Penna. • St. Louis, Mo. • Taylor Felt & Supply Co., San Francisco, Calif. • Acorn Mfg. Co., Los Angeles, California.
Please send me a Unisorb Sample and Free Book ☐
Please send literature on Unisorb Level-Rite "500" ☐

Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-874 J1 on enclosed inquiry slip

SPECIAL LOCKNUTS . . . *that solved fastening problems*

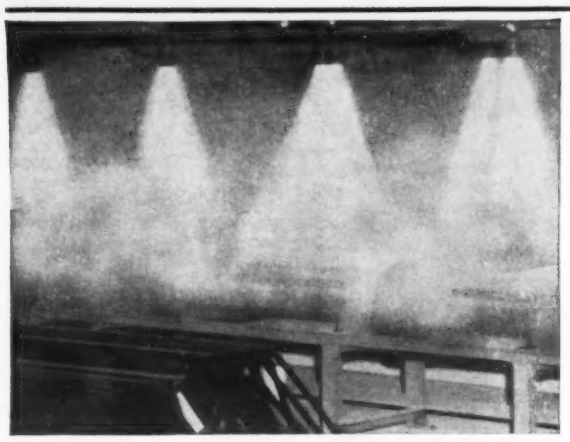


As the largest specialized nut manufacturer in the world we are constantly developing new methods and products for this phase of assembly in industry . . . in the field of locknuts we have made spectacular progress. Besides standardized hexagon "Conelok," "Huglock" and "Marsden," sizes #10—3" of ferrous and non-ferrous materials, we provide many special application nuts, upon a basis of these designs . . . a few of which are here shown . . . Our sales and engineering departments are available to help you solve your fastening problems . . . Send for 12-page condensus catalog, it includes complete specifications of our entire product, as well as engineering data. We also have an one hundred and forty four page catalog where more comprehensive information is required.

Manufacturers of Standard and Special ferrous and non-ferrous Hexagon, Square and "12 Pointer" nuts . . . "Conelok," "Huglock" and "Marsden" locknuts.

NATIONAL MACHINE PRODUCTS COMPANY
an SPS company 44250 UTICA ROAD UTICA, MICHIGAN

For more details circle NED-870 J1 on enclosed inquiry slip



What put out the flo-coat and drier fire?

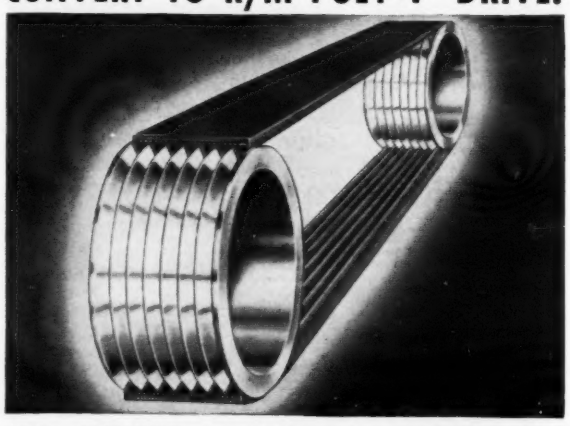
For flammable liquid fires . . . nothing beats a Kidde automatic carbon dioxide fire extinguishing system. U.L. and F.M.-approved Kidde systems go into action at the first sign of a blaze, snuff out fire in seconds, leave no mess. Protect yourself with an automatic Kidde system. Kidde's 40 years' experience can help you guard any fire hazard. Write today and find out how.

Kidde

Industrial and Marine Division
Walter Kidde & Company, Inc., 924 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada Ltd., Montreal — Toronto — Vancouver

For more details circle NED-875 J1 on enclosed inquiry slip

CONVERT TO R/M POLY-V® DRIVE!



NO OTHER DRIVE DELIVERS AS MUCH POWER IN AS LITTLE SPACE!

- MORE POWER — LESS SPACE . . *with Reliability*
- SINGLE UNIT DESIGN
- ELIMINATES BELT "MATCHING" PROBLEMS
- MAINTAINS GROOVE SHAPE
- CONSTANT PITCH AND SPEED RATIOS
- LESS WEAR ON BELT AND SHEAVES
- COOLER, SMOOTHER RUNNING
- COMPLETE CONTACT-PRESSURE
- TWO BELT CROSS SECTIONS MEET EVERY HEAVY DUTY POWER REQUIREMENT

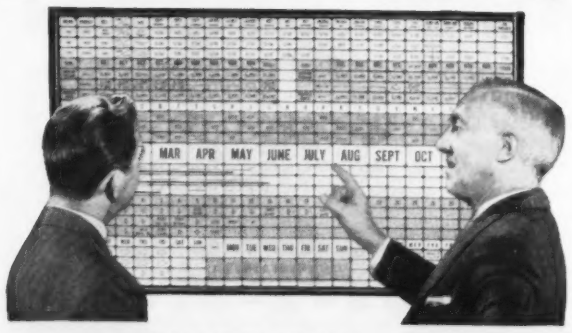
Poly-V is patented Write For Bulletin M141 RM1013

Engineered Rubber Products . . More Use per Dollar

RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

For more details circle NED-876 J1 on enclosed inquiry slip

You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

- ★ Gives Graphic Picture of Your Operations in Color.
- ★ Facts at a Glance - Saves Time and Prevents Errors.
- ★ A Simple, Flexible Tool-Easily Adapted to Your Needs.
- ★ Easy to Use. Type or Write on Cards, Snap on Board.
- ★ Ideal for Production, Scheduling, Sales, Inventory, Etc.
- ★ Compact, Attractive. Made of Metal. 500,000 in Use.

Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET N-400 Without Obligation

GRAPHIC SYSTEMS, Yanceyville, North Carolina

For more details circle NED-877 J1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Cleaning Steel Before Electroplating

FREE Oakite Products, Inc.—Basic handbook entitled "The 3 Essential Steps in Cleaning Steel Before Electroplating" outlines specific procedures and diagrams the mechanics of both direct-current and reverse-current electrocleaning. Materials recommended for reverse-current cleaning provide high conductivity, good smut removal, controlled foaming, ample water-softening, and long solution life.

For more details circle NED-878 J1 on enclosed inquiry slip

Structure Design Manual

FREE International Steel Co. — Revised 60-page "Lindsay Structure Design Manual" describes assembly of Lindsay structural material used in the construction of cabinets, housings, enclosures, trucks and trailers, and industrial and military equipment, including shielded structures. It lists all parts and components and thoroughly explains assembly and special applications.

For more details circle NED-879 J1 on enclosed inquiry slip

Protective Gloves

FREE Wilson Rubber Co.—20-page catalog illustrating the Wil-Gard line of protective gloves and finger cots reports the relative resistance of glove materials to solutions used in industry. A chart provides a check on physical characteristics, such as tensile strength and heat resistance.

For more details circle NED-880 J1 on enclosed inquiry slip

Clutch & Brake Combinations

FREE Dial Products Co.—Dial clutch and brake combinations, utilizing clutches, brakes, and continuous slip clutches and brakes in an in-line construction, can be combined to produce a variety of operating characteristics. Torque output is 30 oz-in. at 2 w for size 100 and 110 oz-in. at 3½ w for size 130. Basic line shown in 16-page Catalog 963 consists of 28 combinations.

For more details circle NED-881 J1 on enclosed inquiry slip

Vinyl-Aluminum Laminate

FREE Aluminum Co. of America—A sample of Alcoa Vynalate, a vinyl-aluminum laminate material, is provided in 20-page brochure entitled "Design with Alcoa Vynalate." Chips of each of 39 Alcoa vinyl color-pattern combinations are also provided in this booklet which gives technical data and use suggestions. Each design is available in four to eight colors.

For more details circle NED-882 J1 on enclosed inquiry slip

Stainless & Nonferrous Fasteners

FREE Albany Products Co.—Over 40,000 different sizes, styles, and types of fasteners in stainless steel, brass, bronze, aluminum, and Monel are listed in 162-page pricing catalog. Thousands of these items have never been shown before, and nine classes of fasteners, previously treated as specials, are listed as standard items. Applications of AN, MS, and NAS specifications and drawing-numbers for every fastener listed are given.

For more details circle NED-883 J1 on enclosed inquiry slip

Cast Polypropylene Films

FREE Hercules Powder Co.—Crystal clarity, toughness, and high resistance to greases, moisture, and many common chemicals are among properties attributed to Pro-fax cast polypropylene films. 12-page technical booklet describes processing of these films which are approved for direct contact with all kinds of food. Booklet also covers markets, properties, converting, and packaging.

For more details circle NED-884 J1 on enclosed inquiry slip

Radios, Hi-Fi & Test Instruments

FREE EICO Electronic Instrument Co.—28-page catalog is descriptive of a complete line of stereo and monaural high fidelity equipment, test instruments, ham gear, citizens radios, and transistor radios available in both kit and wired form. Over 80 items in all are covered by the comprehensive booklet.

For more details circle NED-885 J1 on enclosed inquiry slip

Instruments Catalog

FREE Keithley Instruments, Inc.—1961-62 catalog details the entire line of Keithley instruments, including newly introduced products. Electrometers, micro-microammeters, a microvoltmeter, regulated high voltage supply, and a high megohm bridge are among instruments covered.

For more details circle NED-886 J1 on enclosed inquiry slip

GOT A

CUTTING PROBLEM?

We Guarantee to Solve it or Your Money Back!

Tell us your problem and we'll send you the right saw or cutting tool. Use it for one month's free trial, then, if not satisfied, return the tool at our expense. We make this offer *only* because Huther products are of the finest quality and because we can specify the right tool for your application. Write, or phone collect.

If it's wood, metal, plastic, paper or textiles.

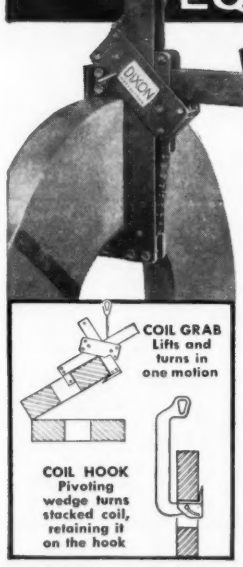
"We Can Cut It"

Huther Bros. Saw Mfg. Co. Inc.
1290 University Ave. • Rochester 7, N. Y.

For more details circle NED-887 J1 on enclosed inquiry slip

DIXON Coil-Handling EQUIPMENT

LIFT, TURN AND LOAD COILS IN ONE EASY MOTION



DIXON GRABS have become the standard because of their secure grip and positive pickup features. All models available from stock. Capacity up to 2000 lbs. Here are a few of the important features:

1. One-man operation, pallet to stock reel.
2. Positive grip without damage to coils.
3. Clamp on all four sides of the coil.
4. Provide for rapid handling with safety.

DIXON HOOKS are especially popular for use where coils are stacked with separating spacers or where the overhead clearance is limited.

Write for our NEW 4-page Coil-Handling Bulletin, CH-B1.

DIXON **DIXON AUTOMATIC TOOL, Inc.**
2302-23rd AVENUE — ROCKFORD, ILLINOIS

ASSEMBLY EQUIPMENT • COIL GRABS AND HOOKS

For more details circle NED-888 J1 on enclosed inquiry slip

COLONIAL CUTTING PADS

CUT COSTS FOUR WAYS

COLONIAL CUTTING PADS can save you money in four ways —

1. They reduce die wear and breakage
2. They reduce rejects
3. They're usable on both sides
4. They're returnable—after full use—for generous credit.

Made of tough, "self-healing," non-oxidizing TYGON plastic, COLONIAL Cutting Pads are clean, dustless, and long wearing. They reduce rejects caused by dirt and dust or by double cutting due to "bounce back." They are widely used in the accurate machine or hand die-cutting of rubber, leather, plastics, cork, candy, paper, fabrics, foils, or light gauge metals. Colors available are black and tan. Standard durometers are 87 to 97, or others on special order. 8 standard sizes range from 20"x20" to 40"x40" in area, and from ¼" to 1" in thickness.

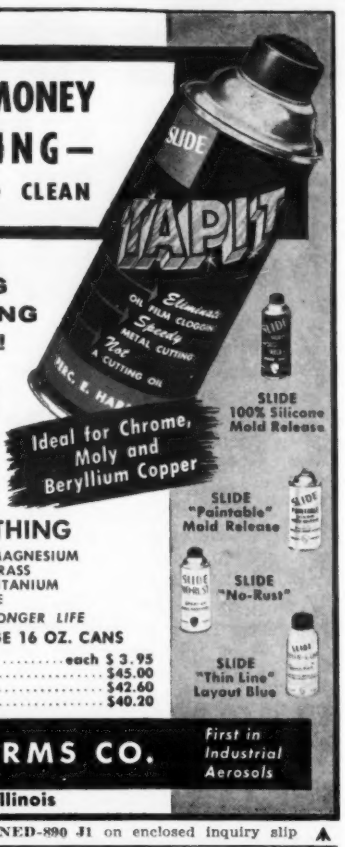
Write, right now, for full information and prices

310C-1

COLONIAL RUBBER CO.
RAVENNA, OHIO

For more details circle NED-889 J1 on enclosed inquiry slip

SAVE BIG MONEY ON TAPPING—
FAST • EASY • CLEAN



NEW AMAZING Aerosol TAPPING COMPOUND!

Amazing new Aerosol Tapit makes any tapping easier from ordinary steel to the toughest alloys—Easy to use . . . fast application . . . cleaner threads, speeds up tapping, prevents clogging and is more economical than standard tapping compounds.

Ideal for Chrome, Moly and Beryllium Copper

TAPS ANYTHING
• ALLOYS • MAGNESIUM
• STAINLESS • BRASS
• CASTINGS • TITANIUM
• STELLITE

BETTER THREADS — LONGER LIFE

"TAPIT" PRICES—LARGE 16 OZ. CANS

Single cans	each $ 3.95
1 Dozen	$45.00
2—6 Dozen	$42.60
7—12 Dozen	$40.20

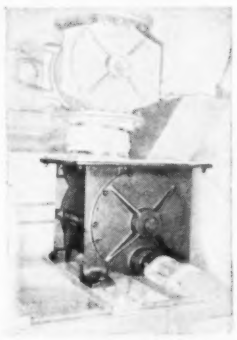
PERC E. HARMS CO. First in Industrial Aerosols
Northfield, Illinois

For more details circle NED-890 J1 on enclosed inquiry slip

Increase efficiency, cut cost with

FLO-TRONICS AIR CONVEYING Systems and Equipment

Flo-Tronics complete air conveying systems and system components are designed to meet your specific requirements . Systems include complete automatic controls. Equipment is available as standard, in cast iron, chrome-plated, Ni-Resist and stainless steel construction.



NEW "SWEEP-FLO" CONVEYING VALVE

Workhorse of the Flo-Tronic Air Conveying Systems is the "Sweep-Flo" Conveying Valve. It introduces granular material into an air stream at a predetermined constant rate. High capacity operation is 15% more efficient than competitive models due to larger size inlets.

Has exclusive axially shaped rotor pocket that moves product with clean sweep and deflected rotor blades that prevent "bubbling." Sealed bearings can't contaminate product through contact. Available in 1½ inch through 10 inch conveying line sizes.

"Sweep-Flo" Conveying Valve is versatile, easy to install, needs only minimum maintenance.

Flo-Tronics engineers are anxious to assist you with your air conveying problems. Write today for "Sweep-Flo" Conveying Valve product sheet and systems brochure. No obligation of course.

FLO-TRONICS, INC.
Air Conveying Division
1430 Zarthan Avenue
Minneapolis 16, Minn.

For more details circle NED-891 J1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

GLASS TREATMENT cleans, prevents static and fogging

Spray-type GTC-59 glass treatment compound cleans and degreases, leaves a lustrous and water-repellent surface, cancels static charge, reduces dirt built-up, and prevents fogging. It may be used on plastic, enamel, chrome, stainless steel, and most other smooth surfaces as well as glass. Treatment is offered in 6-oz bottles, and 16-oz, 32-oz, and 1-gal cans. • **Beaver Laboratories Inc.,** 469 Jericho Turnpike, Mineola, N. Y.

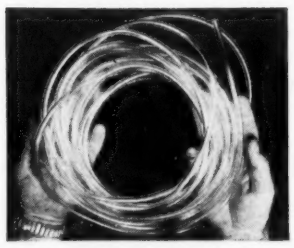
For more details circle NED-893 J1 on enclosed inquiry slip

RUST & SCALE REMOVER also cleans stainless steel

As little as 2 lb of Bull Frog Scale Off No. 104 in 5 gal of water at a temperature of 140 to 150° F effectively removes rust and scale from various types of processing equipment, evaporators, air conditioning cooling towers, compressor jackets, heat exchangers, steam boilers, water jackets, and hoppers. Equipment on a frequent descaling schedule requires a 1-lb to 20-gal concentration. When used for cleaning stainless steel, 1 lb of the product is dissolved per 4 gal of water. Dry powder is available in 6-lb tins and 25, 75, 150, and 400-lb drums. • **Berman Chemical Co.,** 1832 N. 12th St., Toledo, Ohio.

For more details circle NED-894 J1 on enclosed inquiry slip

PLASTIC TUBING for gases, alkalis, acids



Nonporous, almost mirror-like interior and exterior surfaces of Clearflo polyvinyl chloride tubing resist staining, bacterial growth, and dirt accumulation. It is transparent and capable of withstanding corrosion in transmission of gases, acids, alkalis, petroleum products, sea water, and other chemicals and materials. Food Grade Formulation can handle delicately flavored substances with safety. Tubing resists high pressures and crushing. Also available are two reinforced versions, one with a steel wire spring and the other with nylon braiding for burst pressures up to 1000 psi. • **Newage Industries, Inc.,** 222 York Rd., Jenkintown 46, Pa.

For more details circle NED-895 J1 on enclosed inquiry slip

Hints on fluorescent starter selection

G-E STARTERS GIVE YOU SPECIAL PROTECTION AGAINST SHOCKS

General Electric puts insulating liners in its fluorescent starters, to protect maintenance people against the slightest chance of a shock. The liners prevent inside elements from touching and charging the outside metal can — a possibility in unlined starters if they are mistreated or dropped.

For extra safety — use G-E starters. And to get helpful starter ideas, ask your G-E distributor for the "G-E Starter Selection Chart and Maintenance Guide for Fluorescent Lighting." General Electric Company, Wiring Device Department, Providence 7, R. I.

GENERAL ELECTRIC

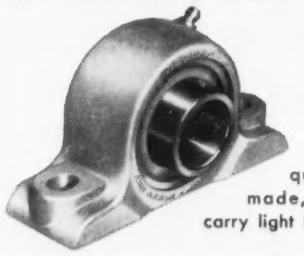
For more details circle NED-896 J1 on enclosed inquiry slip

SELF-ALIGNING PILLOW BLOCK BEARINGS

Hoover SP and SPH series pillow block bearings are designed for quick, easy installation. They are automatically self-aligning in any direction. The eccentric collar forms a self-tightening shaft lock. Elongated bolt holes in the base of the pillow block simplify mounting.

Hoover Quality bearing features assure long life and superior performance. *Hoover Honed* raceways are super smooth, superbly finished. *Micro-Velvet* balls are accurate within millionths of an inch. Felt seals with metal shields retain factory applied lube and protect working surfaces from dirt.

Recommended for light to normal duty load conditions and shock, Hoover SP and SPH series bearings are available in shaft sizes from ¾" to 2 15/16".



LIGHT DUTY PILLOW BLOCK BEARINGS

ED series meets requirements for quality made, economical units to carry light loads at normal speeds.

Hoover-Honed and *Micro-Velvet* are Hoover Trademarks.

hoover
BALL AND BEARING COMPANY
5400 South State Road, Ann Arbor, Michigan

Zone Sales Offices and Warehouses | 8581 South Chicago Ave., Chicago 17, Illinois | 290 Lodi Street, Hackensack, New Jersey | 2020 South Figueroa, Los Angeles 7, California

Hoover Ball and Bearing Company NED-9
5400 South State Road, Ann Arbor, Michigan
Please send Bulletin 106 which describes Pillow Block Bearings
Name
Title
Company
Address
City Zone State

For more details circle NED-897 J1 on enclosed inquiry slip

BOSTON Gear® QUALITY
OPTIMOUNT® ADAPTABILITY

largest selection of standard models from stock simplifies design for speed reduction economy

Helical geared Ratiomotors and Reductors – single or double reduction. For 1/6 to 15 HP.
Horizontal or vertical base mounted, or shaft mounted.
680 mounting combinations. Furnished ready to install.
Specify **OPTIMOUNT**. Save extra cost of special gearhead motors.
Save design time. See Catalog 57 for complete listings.
IN STOCK at your nearby **DISTRIBUTOR**.

BOSTON Gear®
© Boston Gear Works, 1961
Quincy 71, Mass.

For more details circle NED-892 J1 on enclosed inquiry slip

LOCATE HOLES to .001"

up to ten times faster than on a surface plate

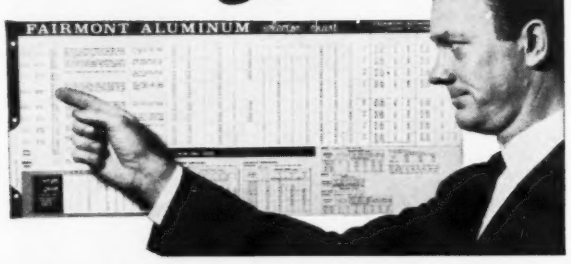
No reference standards are required with the Sheffield-Ferranti machine for measuring and laying out location of holes and surfaces to X & Y coordinates. Part tolerances of .001 and larger are indicated to the nearest .0005 with direct visual readout in lighted ¾" numbers. Instant zero reset—working range 15" x 24". Save time by rushing request for Bulletin FI-22.

The **SHEFFIELD** *Corporation Dayton 1, Ohio*

a subsidiary of The Bendix Corporation

▲ For more details circle **NED-898 J1** on enclosed inquiry slip ▲

Aluminum Users!



Fairmont's new Aluminum Selector Chart helps you pinpoint specifications

Here's 35 years of aluminum know-how at your fingertips! Fairmont's new *Selector* and Design Data Guide is an indispensable reference if you use aluminum sheet, coil, circles in any number of finishes or embossed patterns. Enables you at a glance—to match best combination of aluminum properties to your specific applications. Includes complete tabulation on chemical and physical properties, application data on all aluminum alloys plus weights and helpful specification data.

WRITE for your free copy of the Fairmont Aluminum *Selector*, Vice-President—Sales, Dept. 36 I, Fairmont Aluminum Company, Fairmont, West Virginia.

FAIRMONT ALUMINUM COMPANY

Subsidiary of **CERRO CORPORATION**

FAIRMONT, WEST VIRGINIA, Fairmont 3010 Cable Address, Farmon

▲ For more details circle **NED-899 J1** on enclosed inquiry slip ▲

CORROSION-RESISTANT Non-Contaminating STORAGE with *Poxyglas*

Now a seamless tank with protective features found only in extremely expensive tanks. Poxyglas tanks are constructed of continuous filaments impregnated with epoxy resin wound in a controlled pattern on a mandrel. Then they are cured by a heat treating process. The result is a seamless, strong lightweight tank with extreme resistance to corrosive chemicals. Poxyglas tanks are now in use for storage of water, chemicals, sour crude oil, and other liquids which are difficult to hold.

Size (dia. x ht.)	10x8	10x15	12x15	12x20
Nominal Capacity—Bbl.	110	210	300	400
Nominal Capacity—Gal.	4600	8500	12000	16000
Tanks Shipping Wt.—Lbs.	1000	2000	2250	2500

BSB BLACK, SIVALLS & BRYSON

ARDMORE • KANSAS CITY • OKLAHOMA CITY TULSA

▲ For more details circle **NED-900 J1** on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Silicone Antifoaming Agents

FREE Hodag Chemical Corp.—How Hodag silicone antifoam agents solve many industrial foaming problems is related in 8-page booklet "Hodag Silicone Antifoams." It also details the suitability of Food and Drug Administration sanctioned antifoam agents in food processing and packaging. Prescribed levels for their use are given in a table of properties.

▲ For more details circle **NED-901 J1** on enclosed inquiry slip ▲

Pour-In-Place Urethanes

FREE Nopco Chemical Co.—Versatility and varied uses of Nopcofoam pour-in-place urethanes are illustrated in 12-page publication. Low temperature insulation, building structures, potting, cushioning, and packaging are typical applications pictured. Foams are tough, strong, and light; absorb shock and sound; resist water; and provide thermal and electrical insulation.

▲ For more details circle **NED-902 J1** on enclosed inquiry slip ▲

Scientific & Test Instruments

FREE Minneapolis-Honeywell Regulator Co., Industrial Div.—48-page condensed Catalog G-10b in its second revision describes Honeywell instruments and systems used in scientific measurement, recording, and testing. Amplifiers, data handlers, lab and calibration instruments, magnetic tape devices, nuclear instrumentation, oscillographs, recorders and indicators, temperature sensors and controllers, and process transmitters are among items reviewed.

▲ For more details circle **NED-903 J1** on enclosed inquiry slip ▲

Overhead Electric Cranes

FREE Manning, Maxwell & Moore, Inc., Crane & Hoist Div.—Series D overhead electric traveling cranes for regular duty service in all types of industry are subject of 20-page Bulletin 15005. Produced as standard units, Series D cranes are offered in capacities from 3 to 25 tons and spans to 80 ft.

▲ For more details circle **NED-904 J1** on enclosed inquiry slip ▲

Wire Terminals & Splices

FREE AMP Inc.—Users of this 8-page Catalog 4313 can compute precisely what terminal or splice barrel size must be used to accept any given size of solid, stranded, rectangular, or square wire from No. 26 to 1 million CM. When circular mil area has been computed, reference is then made to series of charts which equates this area with terminal or splice size.

▲ For more details circle **NED-905 J1** on enclosed inquiry slip ▲

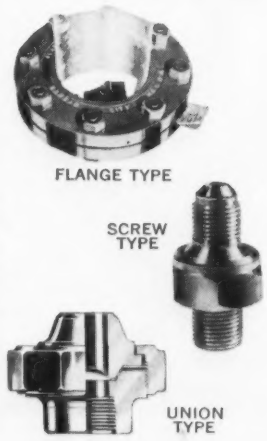
Laboratory Presses

FREE Wabash Metal Products Co. — Hydraulic laboratory presses from 12 to 100 tons capacity are pictured in 12-page Catalog 16. Construction features and applications are discussed. Presses include both manual and power operated units, with and without electrically heated platens.

▲ For more details circle **NED-906 J1** on enclosed inquiry slip ▲

INSTANTANEOUS OVER-PRESSURE RELIEF with SAFETY HEADS

If you now use a relief valve anywhere in your plant, or process or store gases or liquids under pressure, here's something that will be of interest to you. BS&B safety head assembly can save you valuable maintenance time, prevent leakage of process fluids or gases and even prevent a disaster. The safety head mounted in a holding device may be used in conjunction with a relief valve or by itself on any pressure vessel. These lightweight metal discs rupture at a predetermined pressure, giving complete and instantaneous pressure relief. Various metals and coatings make safety heads usable with almost any type of corrosive service. Available in three basic configurations with pressure ratings from 5 to 100,000 psi and in sizes from ⅛ to 44". For complete information on Safety Heads, write: Dept. 9-L2, Black, Sivalls & Bryson, 7500 East 12th Street, Kansas City 26, Missouri.



BSB BLACK, SIVALLS & BRYSON

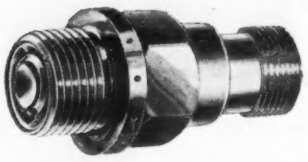
KANSAS CITY • OKLAHOMA CITY • TULSA EDMONTON • THE HAGUE

▲ For more details circle **NED-907 J1** on enclosed inquiry slip ▲

NORWOOD CONTROLS

BONDED STRAIN GAGE PRESSURE TRANSDUCERS

... for static and dynamic pressure movement

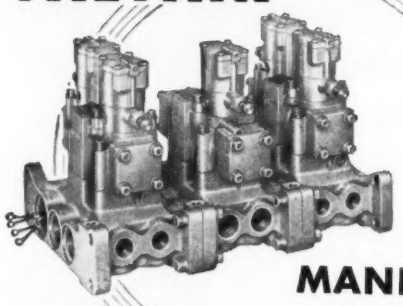


Norwood bonded strain gage pressure transducers can be used wherever precision measurement of static and dynamic pressures are vital. They are virtually unaffected by extreme vibration or acceleration through the entire pressure range 0 to 60,000 psi. Models are available uncooled or for either air or water cooling. With air cooling gas temperatures as high as 2000°F can be safely applied. Water cooled models can measure gas pressures at temperatures to 5000°F; liquids to 1000°F. Get detailed information by writing American-Standard Controls Division, 5900 Trumbull, Detroit 8, Michigan.

AMERICAN-Standard CONTROLS DIVISION

▲ For more details circle **NED-908 J1** on enclosed inquiry slip ▲

VALVAIR®



multi-station **AIR VALVE MANIFOLDS**

Write for Bulletin MAN Address: Bellows-Valvair Akron 9, Ohio Dept. NED-961

Conserve valuable space . . . simplify piping and wiring . . . speed installation . . . cut labor and material costs . . . reduce in-service maintenance down time with Valvair multiple-station valve manifolds. Standard, plug-in and manifold types . . . any desired number of stations and valve styles . . . easily ganged . . . integral conduit, supply and exhaust ports. 8186

Bellows-Valvair

AKRON 9, OHIO

DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

▲ For more details circle **NED-909 J1** on enclosed inquiry slip ▲

FRICTIONLESS LEVEL CONTROLLERS

Will not freeze or clog!

SIDE MOUNTED
CAGE MOUNTED
TOP MOUNTED

BS&B Level Controllers consist of a displacement element, a torque tube, and a pneumatic controller. As the liquid level in a process vessel changes, the apparent weight of the displacement element, due to fluid displacement, changes proportionately. This change in weight is transmitted through the torque arm, indicating the proportional change of liquid level. An output signal is then transmitted to a valve which controls the amount of fluid flow into the vessel.

With the BS&B Level Controllers, no stuffing box or packing gland is required. The displacement arm is reversible without additional parts. Since no bearings are used in the connector block, it is frictionless. BS&B Level Controllers are available with reset and rate action. Write for complete information on BS&B Level Controllers.

BSB BLACK, SIVALLS & BRYSON

TULSA • OKLAHOMA CITY • KANSAS CITY EDMONTON • THE HAGUE

▲ For more details circle **NED-910 J1** on enclosed inquiry slip ▲

INDUSTRIAL INCINERATORS
— Save Hauling Charges
— Pay for 'Selves in 6 to 12 Months

New Model C2. Available in 10, 15, 20 and 30 bushel capacities.

Save more than the price of a Winnen Incinerator! Eliminate monthly charges for hauling refuse. Avoid fire hazards and reduce your fire insurance premiums. Why take chances of spontaneous combustion, carelessly tossed cigarettes or matches?

Winnen Incinerators burn all dry, or wet-and-dry (mixed) refuse. Your choice of fuels. No fuel is needed to burn refuse 80% dry. Feed doors are over-size for quick loading of cartons and crates without breaking them up.

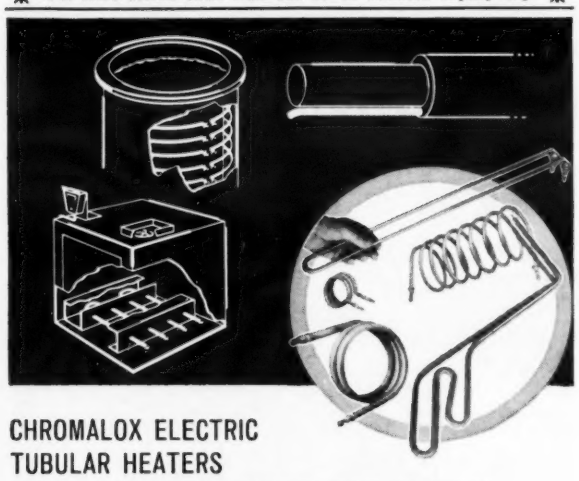
Winnen Incinerators can be installed indoors or out, take up little space. Combustion chamber is lined with heavy refractory material to withstand exceedingly high temperatures. Shell is heavy gauge steel. Optional equipment is available, such as automatic fuel control, smoke and fly-ash remover ("water wash"), automatic door lock for preheating, prefab chimney, etc.

Five Models. Models C, C2 and E are available in 4, 10, 15, 20 and 30 bushel capacities. Model S in 7, 10, 15 and 20 bushel. The Custom Wincinator (WS Model) is built in *any* size, on order. All Wincinators have multiple combustion chambers. When operated as directed they give trouble-free, smokeless-odorless service. Fully guaranteed one year.

Models C, C2 and S are shipped knocked-down with easy-to-follow directions for installing. Any handy man can set up a Wincinator. No mason needed. Easy to relocate later if you wish.

Also available is a complete line of prefab chimneys. Send for complete information. Write today to Winnen Incinerator Co., 932 Broadway, Bedford 10, Ohio, U.S.A. *Advt.*

▲ For more details circle **NED-911 J1** on enclosed inquiry slip ▲



CHROMALOX ELECTRIC TUBULAR HEATERS

HEAT APPLICATIONS UNLIMITED

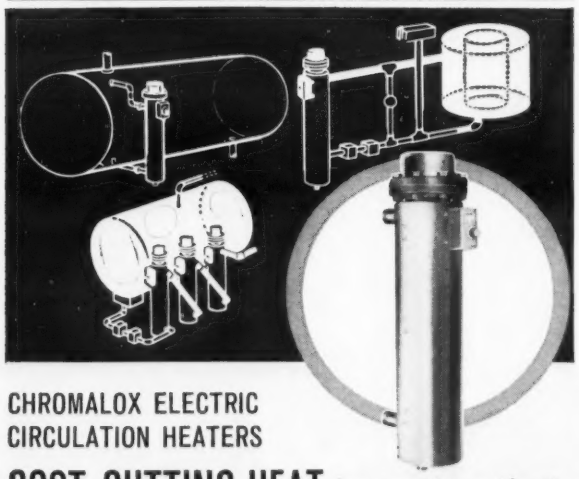
Versatile Chromalox Electric Tubular Heaters, in limitless straight or tailored shapes are used for convection, conduction and radiant heating. They may be clamped to metal surfaces, fitted into machined grooves, cast into metals, immersed in liquids, installed in ovens, calenders, molding-presses and similar equipment.

Wide selection of sheath metals, voltages, wattages and temperature controls to suit your exact needs. **Send for Catalog 60.**

WI-12

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

▲ For more details circle **NED-912 J1** on enclosed inquiry slip ▲



CHROMALOX ELECTRIC CIRCULATION HEATERS

COST-CUTTING HEAT for anything that's piped.

These compact, automatic, highly efficient jobside heating plants are widely used for heating, preheating and superheating. Temperatures to 1200°F and above easily, readily reached, accurately maintained. Heaters are quickly installed, with built-in thermostats and will give long dependable service with minimum attention. Many standard models in stock for immediate shipment. Special models built to meet special corrosive conditions and high-capacity requirements. **Send for Bulletin PE502.**

WI-13

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

▲ For more details circle **NED-913 J1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

PACKAGING SERVICE for screws and small parts

Imprinted Electro-Paks filled with automatically counted parts are turned out at the rate of 6000 packets per hour by this electronic packaging service. Up to three different types of small parts can be included in each heat sealed packet. Each is 4½ in. wide and can be any length from 2 to 6 in. Poly-kraft paper used can be imprinted to specifications. Parts previously packaged in envelopes (left) are shown in heat sealed packet (right). • **Abbott Screw & Mfg. Co.**, Electronic Packaging Div., 6525 N. Clark St., Chicago 26, Ill.

▲ For more details circle **NED-914 J1** on enclosed inquiry slip ▲

ATHLETE'S FOOT PREVENTIVE now available in 6-oz spray bottle

Designed for simplified distribution to employees in plants and offices, 6-oz unbreakable squeeze type spray bottles of Onox are easily refilled from bulk containers. Onox is a skin-toughening solution which treats and prevents athlete's foot. This new dispenser enables workers to apply Onox regularly in the plant and at home. Price is $15 for a 12-bottle case. • **Onox, Inc.**, 121 Second St., San Francisco 5, Calif.

▲ For more details circle **NED-915 J1** on enclosed inquiry slip ▲

PIPE JOINT TAPE made of chemically inert Teflon

Thread seizing and galling on all types of pipe materials is prevented by use of Pipe-Tape on pipe joints. Made of DuPont Teflon, the dry product is suitable for temperatures from −250 to 450° F. It resists high pressures and withstands moisture, aging, and virtually all chemicals and corrosives. Self-lubricating property allows joints to be easily disassembled, even after long periods of service. • **Amasco Products**, 79-22 71st Ave., Glendale 27, N. Y.

▲ For more details circle **NED-916 J1** on enclosed inquiry slip ▲

At Your Service...

CHROMALOX — FIRST NAME IN ELECTRIC HEAT

CHROMALOX and RADCOR
Sales and Engineering Representatives

WI-20

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WICHITA, KANSAS Amherst 2-5647

▲ For more details circle **NED-917 J1** on enclosed inquiry slip ▲

REED 1-3-4 WHEEL PIPE CUTTERS

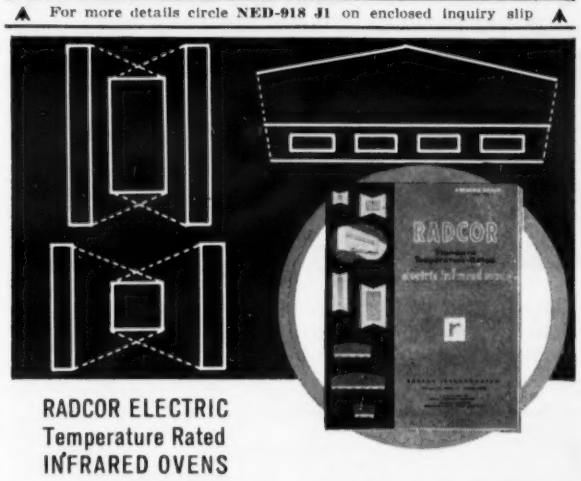
Wide Hub Razor Blade Wheels

The Reed Pipe Cutters in this series are the easiest-to-use and the cleanest cutting tools in their size range. In the roller model, the single wheel is in the sliding block where it is always in full sight with the cut-off mark. The 4-wheel model is excellent for close-quarter work since it operates with an easy ratchet-like action through a quarter revolution. Reed Razor Blade Wheels cut easily, track perfectly, and leave minimum burr. Available in three size ranges: ⅛" to 1¼", ⅛" to 2" and 1" to 3".

At better jobbers, or write for circular

REED MANUFACTURING COMPANY
ERIE, PENNSYLVANIA

▲ For more details circle **NED-918 J1** on enclosed inquiry slip ▲



RADCOR ELECTRIC Temperature Rated INFRARED OVENS

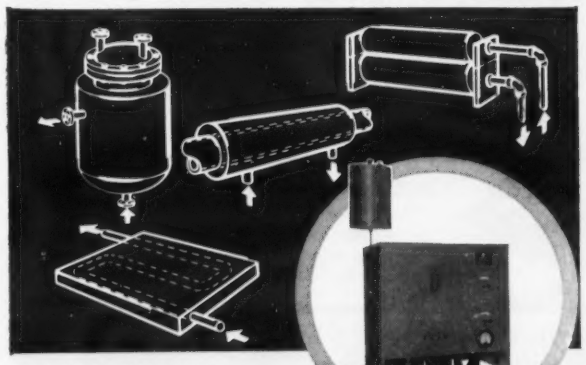
Temperature-Rating FITS THE OVEN TO THE JOB — Exactly!

Now—design curing, baking and drying ovens to your space and performance requirements in temperature ranges from 235° F. to 660° F. New Radcor Infrared Oven Catalog shows you how to save money, get the exact performance you need, cut costs and, incidentally, take the mystery out of oven selection.

R-3 **Write for Radcor Catalog BRG-115 Today!**

RADCOR, INC.
DEPT. B—100 CHURCH STREET
BRADNER, OHIO
ELECTRIC HEATING SYSTEMS
A Subsidiary of Edwin L. Wiegand Company

▲ For more details circle **NED-919 J1** on enclosed inquiry slip ▲



RADCOR ELECTRIC FLUID HEAT TRANSFER SYSTEMS

ACCURATE HEAT from single compact package.

All necessary elements of the Radcor heat-transfer system are in one, all-welded, compact package. Automatic controls generate only as much heat as required, without high pressures.

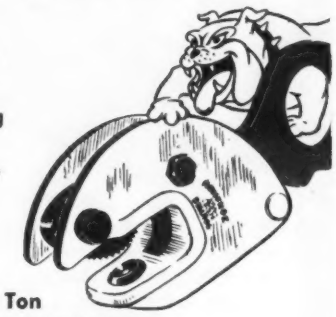
Heat source is Chromalox Electric Circulation Heater. Temperatures to 600°F, automatically and accurately maintained. Ten different standard models to choose from, in two cabinet sizes ranging from 15,350 to 272,000 Btu's **Write for Bulletin BRP100-1.**

R-2

RADCOR, INC.
DEPT. B—100 CHURCH STREET
BRADNER, OHIO
ELECTRIC HEATING SYSTEMS
A Subsidiary of Edwin L. Wiegand Company

▲ For more details circle **NED-920 J1** on enclosed inquiry slip ▲

THE RENFROE
PRECISION-BUILT
BULLDOG
STEEL LIFTING CLAMP
½ Ton to 7 Ton
- Efficient — Rugged
- Light in Weight
- Larger Jaw Opening
- Compact in Size
- 5 to 1 Safety Factor



½ Ton to 20 Ton
Renfroe safety snap lock clamps
Safest steel lifting clamp available
Write for full line catalogue

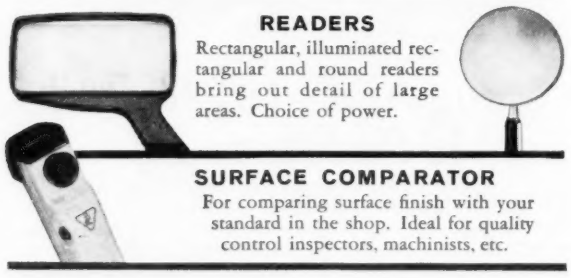
Safety Snap Lock

J. C. RENFROE & SONS, INC.
1926 SPEARING STREET • JACKSONVILLE, FLORIDA

For more details circle NED-921 J1 on enclosed inquiry slip

MAGNIFICATION PROBLEM ?
B & L has the answer !

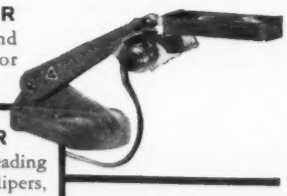
Augment your skill by using the finest tools...magnifiers from Bausch & Lomb. You're sure of the finest optical quality in the world with every B & L magnifying tool you use. Over 65 different types to answer every need.



READERS
Rectangular, illuminated rectangular and round readers bring out detail of large areas. Choice of power.

SURFACE COMPARATOR
For comparing surface finish with your standard in the shop. Ideal for quality control inspectors, machinists, etc.

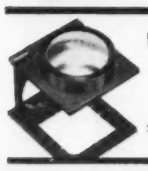
ADJUSTABLE STAND MAGNIFIER
Uses rectangular or round reader lenses. Illuminator attachment available.



VERNIER MAGNIFIER
Facilitates reading of vernier calipers, height gauges or metal rules. Magnets afix magnifier to ferrous metals.

MEASURING MAGNIFIER
Precision-ground 7x Hastings Lens provides distortion-free image. Available with four interchangeable scales, for reading .005", .1mm, 1° angles, 1/64" radii.

LINEN TESTER
Pocket-sized fixed focus glass, unfolds for use in getting sharp, accurate images.



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NEW LITERATURE and CATALOGS

Control Valves Manual

FREE Fisher Governor Co.—"Control Valves" is subject of 64-page Bulletin E600 which comprehensively covers pneumatic diaphragm and piston actuators, plus a variety of valve body assemblies. A 20-page specifying section aids selection. Other topics deal with valve body and trim materials, various styles of valve plugs, pressure-temperature ratings, and performance.

For more details circle NED-923 J1 on enclosed inquiry slip

Air Pressure & Vacuum Pumps

FREE Leiman Bros.—32-page Catalog 561 presents data on rotary positive air pressure and high vacuum pumps, gas boosters, and air motors. Pumps provide vacuums to 29.9 in. Hg, pressures to 20 psi, and volumes to 162 cfm. Models are made in two and four vane, single and double cylinder, fan and water cooled, air cooled, oilless, motor-driven, belt-driven, direct-coupled, and automatically-controlled types.

For more details circle NED-924 J1 on enclosed inquiry slip

Industrial Power Tools

FREE Rockwell Mfg. Co., Delta Power Tool Div.—New items in the line of industrial power tools described in revised 96-page Catalog AB-61 are 20 and 17-in. power feed drill presses, a 12-in. cutoff machine, and a 7-in. standard grinder. Drill presses, grinders, shapers, planers, jointers, lathes, tilting arbor saws, unisaws, and band and radial saws are reviewed.

For more details circle NED-925 J1 on enclosed inquiry slip

Plastic-Paper Board Molded Items

FREE Ro-Forms—Questions and answers relative to Ro-Form finished molded items serve to introduce this product in 4-page folder. Moldings are made from Ro-Board, a flexible, yet rigid plastic and paper board supplied in thicknesses from 0.060 to 0.200 in. Luggage, musical instrument cases, trays, and duct members are typical of the many moldings made.

For more details circle NED-926 J1 on enclosed inquiry slip

Ductile Iron Pipe Fittings

FREE Kuhns Bros. Co.—Available stock sizes and prices for Kuhns ductile iron screwed pipe fittings with ratings from 300 to 2000 psi, Pipe Lock couplings for 400 to 800 psi, flanges and flanged fittings in the 150 and 300 psi class, and hexagon bushings and plugs are presented in 12-page Catalog 3PF. ASTM, ASM, and MIL specifications met by these fittings are listed.

For more details circle NED-927 J1 on enclosed inquiry slip

Contemporary Office Furniture & Accessories

FREE Robert John Co.—32-page illustrated Ultra Catalog describes a complete line of contemporary, modular office furniture and accessories including chairs, desks, tables, file cases, wall cases, credenzas, and storage units. Office layout planning is discussed.

For more details circle NED-928 J1 on enclosed inquiry slip

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UP TO 6000 LB. CAPACITY
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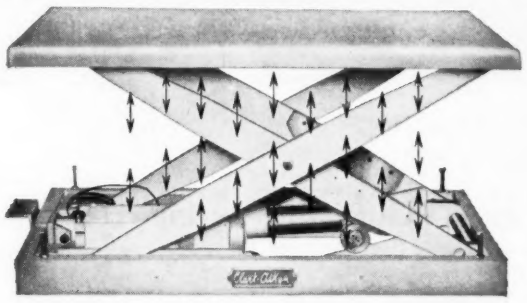

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in simulated leather, other patterns

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MASONRY PRESERVATIVE
usable on new or old surfaces

A two-coat application of Longlife masonry preservative and protective coating seals inside or outside walls, protects floors from water before resurfacing, adds life to masonry roofs, assures good bond for plaster, and protects against weather and fumes. The first coat penetrates the surface, and the second forms a protective, elastic film which expands and contracts with the masonry. • **Flexrock Co.**, 3603 Filbert St., Philadelphia 1, Pa.

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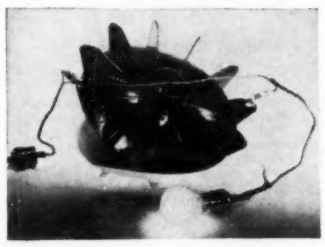
CONDUCTIVE MOLDING COMPOUND
glass fiber reinforced polyester



Parts molded of Grade X-1011-F static electricity-draining molding compound require little or no subsequent machining, and exhibit high physical strength and corrosion resistance. Premix material is electrically conductive to the extent that it will show a zero Megger reading. Conductivity is illustrated by its use as conductor to a light bulb. It can be molded into blowers for explosion-proof equipment and components for use where static is a hazard. Flexural strength is 16,000 psi and tensile strength is 5000 psi. Black in color, it costs from 63 to 69 cents per pound, depending upon quantity. Samples are available. • **Glastic Corp.**, 4321 Glenridge Rd., Cleveland 21, Ohio.

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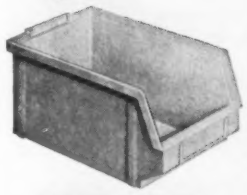
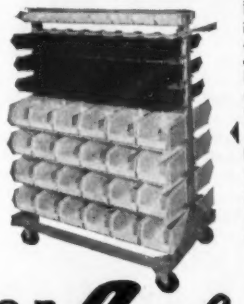
Lewis UNITIZED ASSEMBLY CONTAINERS

FOR
• ASSEMBLY
• PRODUCTION
• STORAGE



Lewis Plastibox containers are one-piece molded plastic. They are smooth, strong, non-corrosive, easily cleaned. Colors, either green or yellow, are molded-in. Plastibox containers stack securely and afford maximum storage of small parts. Sizes available are 8½" long x 5" wide x 4½" deep, 6"x3½"x2½", 3"x3½"x1¾", and 3"x3½"x1¾" with a vertical divider.



MOUNTING RAILS— Rails are supplied in 18" and 36" lengths to mount 4 or 8 of the 3 smaller size Plastibox containers; 3 or 6 of the largest size. Rails afford a wide variety of bench or wall arrangements for any assembly or storage operation.

MOBILE TRUCK ASSEMBLY — These Lewis trucks handle all sizes of Plastibox containers and allow the boxes to be quickly and easily moved from one area to another. Trucks furnished with 36" mounting rails, two swivel and two rigid casters, and are finished in grey enamel.

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New, STANLEY Low-Cost pneumatic door operator . . .

now makes all these profit-building advantages of automatic door operation available for most doors in your plant –

- big return on your investment through controlled traffic flow
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- reduced damage and maintenance costs
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Priced lower than any other automatic door equipment with complete control of door at all times, the new Stanley low-cost Pneumatic Door Operator now makes it economically easy for you to apply this unit to many doors in your plant where automatic operation can help you cut costs and speed flow of materials! Simple to install, it is pneumatically powered and can be operated from your regular plant air lines. Virtually no maintenance is required; all adjustments and repairs are extremely simple. Opening and closing motion is positively controlled through the entire operating cycle. This operator can be actuated by push button, pull cord, kick plate, floor plate or photoelectric. Speed of opening and closing is easily adjusted to suit your specific requirements.

The Stanley low-cost pneumatic Door Operator is supplied for single sliding doors up to 6 ft. in width and 300 lbs. in weight. Write today for complete information and see how this low-cost Pneumatic Door Operator can provide the cost-cutting high-performance answer to your automatic door operating requirements.

MAGIC-DOOR SALES
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Dept. I, 58 Lake Street, New Britain, Connecticut

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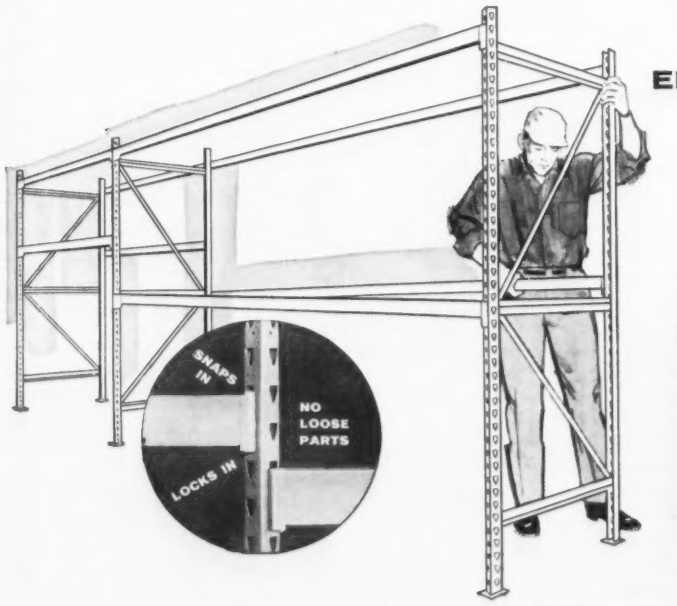
fast assembly!
EMI *air-row head pallet racks*

only 2 basic parts—fast assembly—easy to relocate.



EMI *air-row head DRIVE-IN RACKS*
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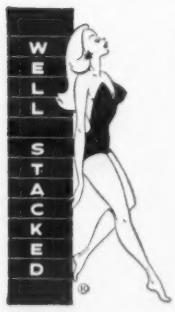
These strong, efficient, space-saving racks are all engineered on the AIR-ROW Head principle with basic interchangeable parts.



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YOU CAN STACK ANYTHING ON EMI RACKS

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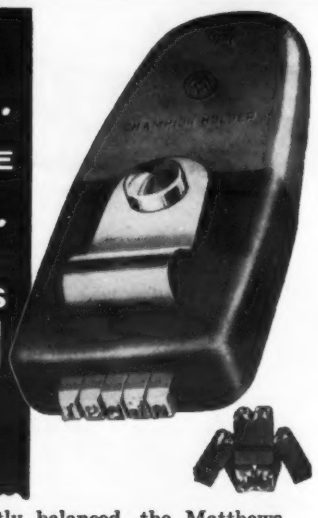

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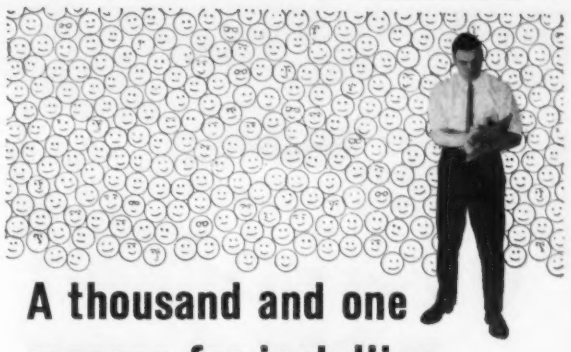

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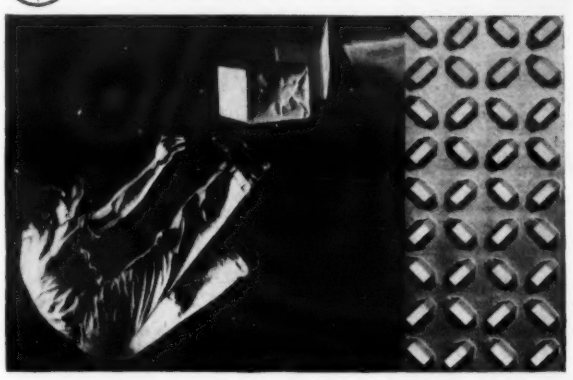
This mark tells you a product is made of modern, dependable Steel.



$100,000 for a fall! *It's true that slips cost more than Multigrip.* Companies have been sued for $100,000 or more because of falls. Fortunately the average cost is less than this but many settlements run over $1,000.

Falls account for about 1 in 5 industrial injuries, but you can help eliminate many of the danger spots by starting a definite program of installing USS Multigrip Floor Plate on machine shop floors, aisles, cat-walks, stairs and other accident-prone areas. Workers like Multigrip—and so does management. For information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS United States Steel TRADEMARK

▲ For more details circle **NED-946 J1** on enclosed inquiry slip ▲

THIS FREE BOOK COULD HELP PREVENT AN ACCIDENT WHERE YOU WORK

United States Steel
525 William Penn Place
Pittsburgh 30, Pennsylvania

Please send me____copies of your free booklet, "USS Multigrip."

Name_____

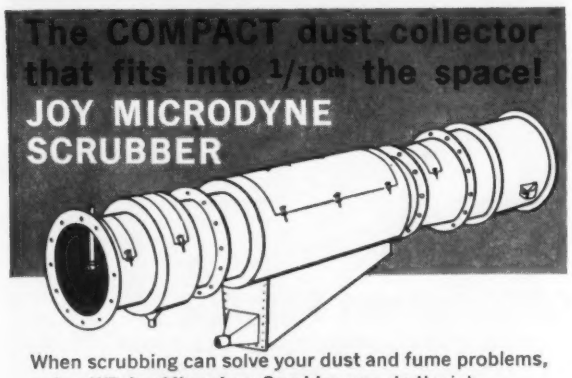
Firm_____ Address_____

City_____ Zone____ State_____

United States Steel USS TRADEMARK

▲ For more details circle **NED-947 J1** on enclosed inquiry slip ▲

The COMPACT dust collector that fits into 1/10th the space!
JOY MICRODYNE SCRUBBER



When scrubbing can solve your dust and fume problems, only a WP **Joy Microdyne Scrubber** can do the job so efficiently in so little space.

Needs only a fraction of the space of other collectors . . . weighs far less . . . yet delivers highest efficiency. Installs in existing duct system, in horizontal or vertical position . . . often at the dust source. Steel or corrosion resistant alloy construction.

WRITE FOR LITERATURE today to Western Precipitation, 1000 W. 9th St., Los Angeles 54, Calif. (In Canada, write 8285 Mountain Sights Ave., Montreal, P. Q.)

DUST AND FUME CONTROL SINCE 1907
WESTERN PRECIPITATION
DIVISION OF JOY MANUFACTURING COMPANY

For more details circle NED-948 J1 on enclosed inquiry slip

WATER
SCALE
DIRT

Easily Removed From Air Systems with Hi-eF Purifiers

Unique Hi-eF Purifiers do the job with no moving parts—guaranteed to remove a minimum of 99% entrainment. Cuts downtime and reduces maintenance costs. Write for Bulletin 503 explaining benefits for all air and steam systems.

Hi-eF PURIFIER
By the Manufacturers of Super-Silvertop Steam Traps
The V. D. ANDERSON COMPANY
Division of International Basic Economy Corporation
1988 W. 96th Street • Cleveland 2, Ohio

For more details circle NED-949 J1 on enclosed inquiry slip

CONTROL MOTOR FUEL COSTS
WITH THE SERIES 58
Fleet Jr.
gasoline pump

- For small truck fleets, construction firms, industry, farms, ranches
- Faster, easier, safer refueling; delivers up to 12 gallons per minute
- Padlock provision prevents pilferage
- Easy-to-read dial to control fuel inventory
- Made by Bennett, leader in service station pump manufacturing, for dependable, low-maintenance service.

JOHN WOOD COMPANY
BENNETT PUMP DIVISION • Muskegon, Michigan

For more details circle NED-950 J1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

High Vacuum Vapor Pumps

FREE Consolidated Vacuum Corp. — 56-page Manual 6-1 is a guide to the design, selection, and application of high vacuum pumps. Types discussed include metal oil, metal mercury, glass oil, glass mercury, and special pumps and systems. The field of vacuum technology is covered.

For more details circle NED-951 J1 on enclosed inquiry slip

Power Press Equipment

FREE Cooper Weymouth, Inc.—Air-operated slide, mechanical slide, and automatic roll feeds; wire and stock, part, combination cradle, and heavy duty feeder straighteners; stock reels; scrap choppers; and press safety guards are some of the press room equipment detailed in Catalog 61.

For more details circle NED-952 J1 on enclosed inquiry slip

Surge Arrestor Valve

FREE Golden-Anderson Valve Specialty Co.—16-page Bulletin W-16 is descriptive of the cushioned surge arrestor valve that anticipates the surge to protect the system. Pilot controls automatically open the main valve on abnormal pressures, subnormal pressure, or electrical power failure.

For more details circle NED-953 J1 on enclosed inquiry slip

Model Engines & Components

A complete line of miniature gasoline, steam and other engines; dynamos; pumps; casting kits; engine and boiler fittings; and other accessories are described and priced in 40-page Catalog 61. Also described is a complete line of books on model engineering and making. Price is 25 cents. Published by **Octura Models**, Box 536, Park Ridge, Ill.

For more details circle NED-954 J1 on enclosed inquiry slip

Steam-Detergent Cleaning Techniques

FREE Oakite Products, Inc.—"How to Get the Most Out of Steam Cleaning" is title of 4-page Bulletin F-11049 which is a concise compilation of the most modern methods and materials currently used in steam-detergent cleaning. Properties of effective detergents are covered. Also described is the new Hurriclean gun and the lightweight Steam Pistol.

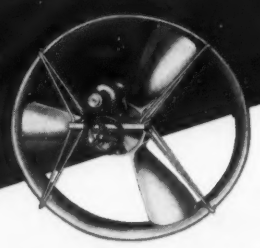
For more details circle NED-955 J1 on enclosed inquiry slip

Directory of Products

FREE Goodyear Tire & Rubber Co. — 28-page "Products Directory" lists products, trade names, and where-to-buy sources for the complete Goodyear line. Both consumer and industrial lines of tires and tubes, industrial rubber goods, aviation products, chemical products, metals, aircraft and defense products, plastic films and sheeting, flooring, shoe products, foam, car and home products, batteries, rubber roads, and retread and repair materials are listed. Handy index facilitates use of this guide.

For more details circle NED-956 J1 on enclosed inquiry slip

REDUCE FAN NOISE
WITHOUT SACRIFICING AIR MOVING EFFICIENCY



WITH
HARTZELL LO-NOISE FANS

Special air-foil blade which is designed to operate efficiently at slow speeds reduces noise intensity by as much as 30% below that of conventional propeller fans. Exclusive Hartzell curved orifice air-seal ring further increases efficiency and reduces noise by eliminating turbulence and backflow of air at the propeller tips. Seven sizes, 24" to 60". Cast aluminum alloy propellers; ring or panel mounting.

For complete details, call your nearby Hartzell field office or write for a copy of Bulletin A-109

Hartzell PROPELLER FAN COMPANY
Division of Castle Hills Corp. • PIQUA, OHIO
A Member of AMCA

For more details circle NED-957 J1 on enclosed inquiry slip

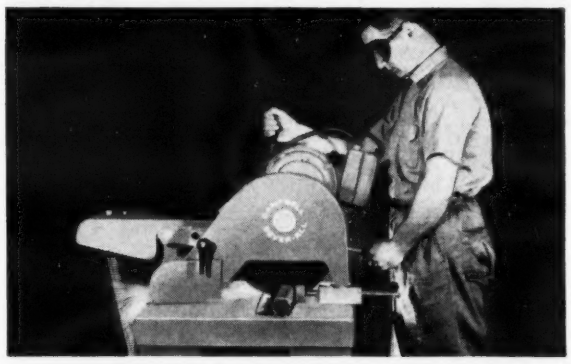
Get safe, maintenance-free plant heating with

Perkins AIRadiators operate on hot water or steam up to 150#. No motors, fans, or other moving parts that can cause sparking, or wear out—Perkins AIRadiators are maintenance-free, built to last the life of your plant. Heat is evenly distributed—quietly, without drafts or hot blasts.

Write for Bulletin V
. . . Learn how Perkins AIRadiators can give you better plant heating—at low cost.

SHAW PERKINS MFG. CO.
Properly Designed Room Heat Distribution Equipment
201 E. CARSON ST., PITTSBURGH 19, PENNA.

For more details circle NED-958 J1 on enclosed inquiry slip



NEW Model 1-A SEVER-ALL CUTS AT 3 to 6 SECONDS PER SQ.IN.—ECONOMICALLY

- New abrasive cutting machine—less than $500
- Wheel oscillation provides capacity up to 2" square solids, 3½" O. D. pipe and tubing, 3" angle iron, 4" channels
- Clean cuts on large or small sections
- Cuts cold rolled, stainless, and alloyed steel; cast iron; non-ferrous metals
- Little or no set-up time required
- Just two wheels for all SEVER-ALL cutting jobs
- Available from distributors

Write FOR BULLETIN DH-106

SEVER-ALL ABRASIVE CUTTING MACHINES ACCO
Allison-Campbell Division
American Chain & Cable Company, Inc.
930 Connecticut Avenue, Bridgeport 2, Conn.

For more details circle NED-959 J1 on enclosed inquiry slip

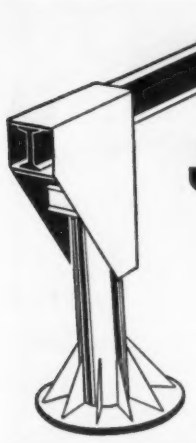
AIR-LOC
MACHINE MOUNTING PADS
. . . positive vibration control at lowest cost

- Easily installed without cement or bolts
- For leveling, shim between top and bottom pads
- Vinyl impregnated cork and sisal resists oils, alkalies and acids
- Machines held firmly in place — no "walking"
- Air-Loc is re-usable when machine is moved or replaced

Write for full information and sample.

Air-Loc DIVISION
Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

For more details circle NED-960 J1 on enclosed inquiry slip



CHICAGO TRAMRAIL

JIB CRANES

Faster Handling

AT LESS COST

360° SWING

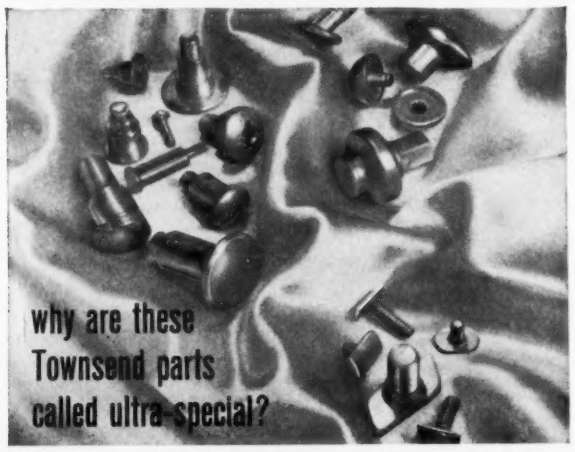
SELF-SUPPORTING

CAPACITIES FROM 1½ TO 5 TONS

A complete line of Jib Cranes including Wall Bracket Type with 180° rotation, Self-Standing Column Type with 220° rotation; also heavy duty and light duty Self-Supporting Type with 360° rotation. Mast type with top and bottom supports. Top bearing is bronze and a tapered precision bearing is at bottom.

CHICAGO TRAMRAIL DIVISION | 1310 S. KOSTNER AVE.
CONCO ENGINEERING WORKS INC. | CHICAGO 23, ILLINOIS

For more details circle NED-961 J1 on enclosed inquiry slip



We call the metal parts shown here Ultra-Special because they are the result of completely new cold-forming and finishing techniques. They are typical examples of how users are reducing costs by taking advantage of the strength, improved quality, close dimensions and economy of mass-producing parts by cold-forming.

Now, through extensive research and development work Townsend is cold-forming Ultra-Special items with intricate shapes and critical dimensions held to tolerances as close as .001 inch. They may be made by combining cold-heading processes with impact extrusions, special heat-treatment and coatings, to name but one of the new techniques.

The use of Townsend Ultra-Special items in your product assembly could provide the means to make better products at lower costs. Investigate by asking a Townsend field engineer to call. **Write Townsend Company, Engineered Fasteners Division, P. O. Box 71-G, Ellwood City, Pa.**

In Canada: Parmenter-Bulloch Manufacturing Co., Limited, Gananoque, Ontario

For more details circle NED-962 J1 on enclosed inquiry slip

Just Out! Just the ticket to cut cost!

ROSS "CUB"

CUB

NEW SPEED CONTROL VALVE

⅛" and ¼" pipe sizes in stock now!

Now a speed control valve that regulates your cylinder movement with precision and sureness, but which lists at $3.00 and $3.25. And despite its lower costs, "CUB" features the same high quality of design and workmanship you've come to expect from Ross. "CUB'S" design stresses trouble-free operation and easy maintenance. CUB is small, aluminum and lightweight. If you use speed controls, by all means call your Ross representative or write us.

ROSS OPERATING VALVE CO.

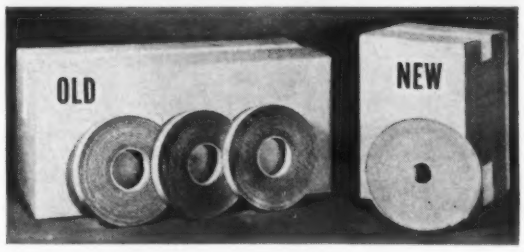
161 E. Golden Gate Ave. • Detroit 3, Michigan

For more details circle NED-963 J1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

SELF-ADHESIVE FOAM TAPE
now offered in lengths to 100 ft

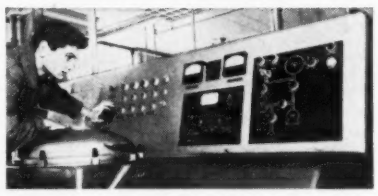
Arnofoam polyurethane foam pressure-sensitive insulating and cushioning tape in ⅛, ¼, and ½-in. thicknesses is now offered in 30, 75, and 100-ft lengths on



1½-in. cores. It was formerly made only in 5 and 10-yd rolls on 3-in. cores. It is compressed during winding for compactness, but it immediately recovers its original thickness when unwound. Foam tape is usable for weatherstripping, dust and moisture proofing, sound proofing, and as a packaging protection against shock, heat, and cold. Density is 2 lb/cu ft, and continuous temperature limit is 260° F. • **Arno Adhesive Tapes, Inc.,** Ohio Street & Highway 20, Michigan City, Ind.

For more details circle NED-964 J1 on enclosed inquiry slip

RHENIUM-TUNGSTEN ALLOY
has operating range to 5400° F and stays ductile upon recrystallization



Rhenium - tungsten alloy in strip, rod, and wire forms is now available for use in high temperature measurement devices and reliable electronic components for radar, missiles, and aero-space craft. Specific applications include grids, heaters, cathode supports for electronic tubes, thermocouples, electrical contacts, and welding filler rod.

Operating temperature range of W-25 Re alloy is up to 5400° F, and it retains its ductility after recrystallization. It has outstanding elevated temperature strength and better weldability than pure tungsten. Its somewhat higher electrical resistivity permits construction of heavy, durable filaments or heaters. Alloys are produced by powder metallurgy techniques.

In picture, operator is adjusting the power input for a vacuum furnace where rhenium-tungsten is sintered at up to 2500° C and at pressures of about 0.02 microns. • **Chase Brass & Copper Co.,** 236 Grand St., Waterbury 20, Conn.

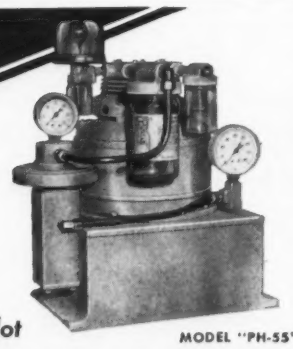
For more details circle NED-965 J1 on enclosed inquiry slip

FOR PRECISE, HEAVY DUTY WEB CONTROL . . .

specify the

Stanford HYDRAULIC WEB GUIDE

with exclusive "P-H" Automatic Pilot



MODEL "PH-55"

. . . powerful, pin-point precision in even the heaviest unwind and rewind web guiding operations! With exclusive pneumatic-hydraulic automatic pilot control, the Stanford PH-55 Web Guide is a complete package combining the ultimate in power and precision—side register held to .010 of an inch. No adjustments are needed on the specially designed Pilot Control and "chattering" and "hunting" problems are eliminated.

STOP WASTE
SAVE TIME
SPEED PRODUCTION
STANFORD-IZE!

For further PH-Series information, write to Dept. SE-17

Stanford ENGINEERING CO. SALEM, ILLINOIS

For more details circle NED-966 J1 on enclosed inquiry slip

HANDLING FERROUS METALS?

Save time and cut costs with STEARNS lifting magnets

Circular Rectangular

Job-proved in steel mills, foundries, scrap yards and manufacturing plants throughout the world.

Deep-ribbed for maximum heat dissipation, Stearns lifting magnets run cooler, lift stronger. Shock absorber design provides extra protection for longer, maintenance-free life.

Available in all-welded or bolted design in sizes and capacities to handle any job. Rectifiers and controls also available.

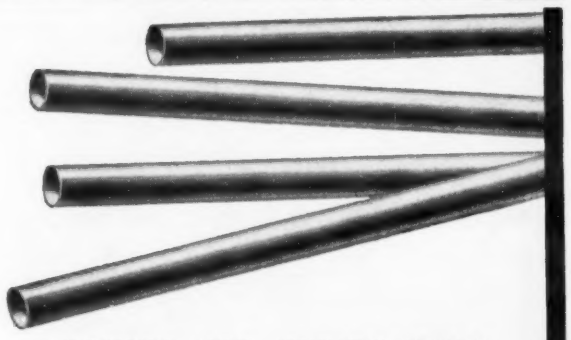
Call your local Stearns representative, or write for Bulletin 35CL.

DIVISION OF INDIANA GENERAL CORPORATION

STEARNS MAGNETIC PRODUCTS
635 South 28th Street • Milwaukee 46, Wisconsin
Phone EVergreen 3-4800 Direct Distance Dialing Code 414

Profit with Stearns—Pioneer Builder of Lifting Magnets

For more details circle NED-967 J1 on enclosed inquiry slip



LOOKING FOR INFORMATION ON ALUMINUM TUBE?

WRITE FOR

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. G, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-968 J1 on enclosed inquiry slip

—with the right Macwhyte

Is your wire rope exposed to corrosive conditions? To marine atmospheres? Have you tried Macwhyte Corrosion-Resistant Wire Rope? Stainless Steel, Monel Metal, Galvanized Steel, Plastic coated, or Nylon coated. You will find what you need in the complete Macwhyte line. Sizes available from 1/32" to 1½" in any length. Ask for Bulletin 49-30. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

MACWHYTE

253

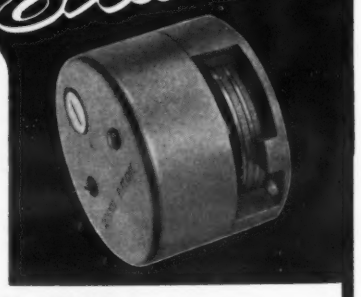
For more details circle NED-969 J1 on enclosed inquiry slip

and— another NEW product from Stearns

NOW AVAILABLE—

3 lb-ft. max. Torque electro-magnetic DISC BRAKES SIZE H-44

Diameter — 5"
Depth — 3 7/16"
Weight — 5½ lb.
AC or DC



MORE TORQUE PER POUND — MORE TORQUE PER CUBIC INCH!

Spring set—solenoid released disc brakes that mount on NEMA "C" flanges of "40-frame" fractional hp electric motors . . . for fast, smooth, quiet stops—"failsafe" operation—higher torque with minimum size and weight. *Life-Tested and Installation-Proved. Request Stearns New Product Preview-1-61-B.*

Stearns ELECTRIC CORPORATION
130 NORTH BROADWAY
MILWAUKEE 2, WISCONSIN

SINCE 1917—THE CHOICE OF LEADING MOTOR AND MACHINERY MANUFACTURERS

▲ For more details circle NED-970 J1 on enclosed inquiry slip ▲

SOLDER WITHOUT CLEANING

SOLDER FAST
SOLDER SAFELY
SOLDER IN A BREEZE
Copper — Brass — Steel
Terne Plate—Galvanizing

WETOIL is powerful enough to solder on dirty metal and mild enough to package in a can.

WETOIL is a new concept in flux; contains alkaline buffer to stabilize without attack; comes alive with torch or iron and the residue is readily soluble in water.

WETOIL will penetrate and wet dirt, oil, grease and extraneous matter. No Skips. High Tensile Strength.

WETOIL is packaged in bulk and gallons. Special offer six 4 oz. cans, with applicator brush in cap, $3.25 fob Philadelphia, Pa. Gallon $3.95.

Have you tried #1 Acid Brushes, 25% more hair, $3.60 per gross, f.o.b. Philadelphia.

FARRELLOY COMPANY
1246 North 26th Street, Philadelphia 21, Pa.

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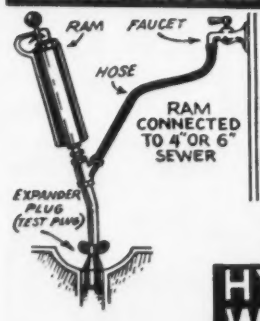
CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, *plus* set of 5 tapered adaptor plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.
138-5 Hurd Avenue Bridgeport 4, Connecticut

▲ For more details circle NED-972 J1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

RUST REMOVER flushed off with water

Multiacid Aci-Gel rust remover requires but a few minutes to remove rust to bare metal by chemical action. It is brushed on, then flushed off with water. Extreme rusted surfaces require two applications. Material stays on vertical surfaces, as it contains a thixotropic gelling agent. Only preparation for painting required after application and flushing is light wire brushing and drying. • **Sloan Chemicals, Inc.**, Caxton Bldg., Cleveland 15, Ohio.

▲ For more details circle NED-973 J1 on enclosed inquiry slip ▲

THERMOSETTING ADHESIVE bonds metal to metal

Strong, flexible, and highly resistant to impact, NP 711 two-part epoxy resin has a working or pot life of up to 1½ hr. It is an equal-weight blend of the adhesive and its catalyst, and its curing schedule varies with the nature of materials being bonded, thickness of the bond line, and temperature conditions. An assembly may be moved in 1½ to 2 hr, and complete cure takes place in 24 to 48 hr at room temperature. Addition of heat from 175 to 250° F greatly shortens curing time. Developed for metal to metal bonding, it has a −40 to 250° F range, is nonflammable, and practically nontoxic. • **Miracle Adhesives Corp.**, Bellmore, L. I., N. Y.

▲ For more details circle NED-974 J1 on enclosed inquiry slip ▲

SLIP & ANTI-STICK AGENT offered in spray cans and as liquid

Dry, low friction surface that is chemically inert, insoluble, and thermally stable to 500° F is provided by Rulon reinforced fluorocarbon slip and anti-stick agent. It leaves a low coefficient of friction surface on wood, metal, leather, plastics, and other materials, and has use as a mold release in plastic and epoxy molding work. Other uses are as a lubricant for belts, gaskets, packings, gears, bearings, cable, machine parts, conveyors, and metal cutting, and as an anti-stick agent for blenders, tanks, chutes, and conveyors. A 16-oz aerosol spray can costs $3.50 and liquid is $3.50 per pint and $6 per quart. • **Dixon Corp.**, Bristol, R. I.

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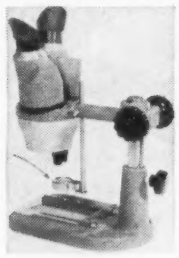
Terrific Value!

High-Powered American-Made

DIRECT - MEASUREMENT STEREO MICROSCOPE

For Industrial or Hobby Use.



Up to 3" Working Distance—Erect Image—Wide 3-Dimensional Field

After years of development, this fine instrument answers the long-standing need for a sturdy, highly efficient DIRECT MEASUREMENT STEREO MICROSCOPE at low cost. Used in production, in research, in the lab, shop, factory, or at home. Choice of 2 direct-measuring attachments: Standard comparator reticle for on-the-spot checks of linear dimensions, diameters, radii, and angles; sand measuring reticle for sand and soil analysis, or counting or measuring other particles of matter. Also inspects, counts, checks, assembles, dissects—speeds and improves quality control. Two sets of objectives on rotating turret. Standard pair of wide field Kellner 10X eyepieces give you 23 power and 40 power. Additional eyepieces available for greater or lesser magnification. A low-reflection coated prism erecting system gives you an erect image—correct as to right and left—clear and sharp. Helical rack and pinion focusing. Interpupillary distance adjustable. Precision, American-made. WILL SHIP ON 10-DAY FREE TRIAL.

Stock No. 85,132-AE Stereo w/comparator reticle $109.50
Stock No. 85,133-AE Stereo w/sand-measuring reticle $109.50
Stock No. 85,056-AE Stereo without Reticles ..... $ 99.50

Shpg. Wt. approx. 11 lbs. All prices F.O.B. Barrington, N. J.

DIRECT MEASURING ATTACHMENTS AVAILABLE INDIVIDUALLY

Stock No. 40,486-AE Regular Comparator Reticle ..... $10.00 ppd.
Stock No. 40,487-AE Sand Measuring Reticle ..... $10.00 ppd.

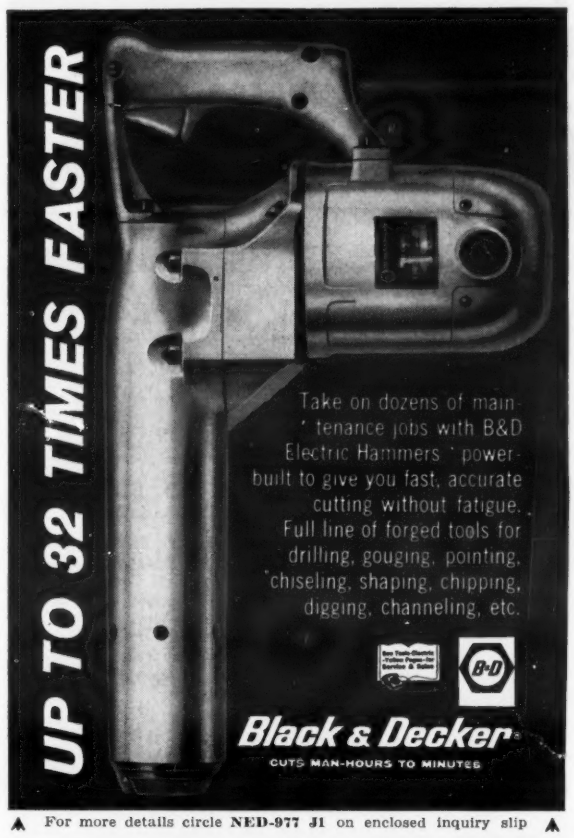
Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee

FREE! Giant 144-Page CATALOG "AE"

OVER 1,000 SCIENCE-MATH-OPTICAL ITEMS for industry . . . Many on-the-job helps . . . quality control aids! 144 pages—hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists, math learning aids. Write for FREE Catalog AE.

EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-976 J1 on enclosed inquiry slip ▲



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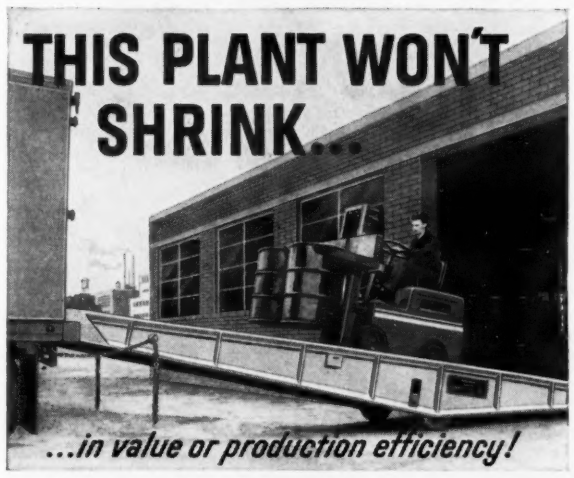

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